

PART 1 - GENERAL

- 1.1 DESCRIPTION
- .1 This section specifies the requirements for the demolition, decommissioning, and dismantling of the Four-Bay Garage as indicated on the Drawings and Specifications.
 - .2 Utilities will be capped at the property line.
 - .3 Existing building services will be made safe.
 - .4 Containerization, haulage, temporary storage and disposal of demolition debris is covered under Section 02 41 23.
 - .5 Prepare and complete work in accordance with the appended Demolition Waste Survey upon review by the Departmental Representative.
- 1.2 DEFINITIONS
- .1 Leachable-Lead Painted Material: Material that is coated with lead based paint that has been analyzed and determined to contain leachable lead concentrations in excess of 5 mg/L (as specified in Transportation of Dangerous Goods Act regulations for Toxicity Characteristic Leaching Procedure test - leachable lead).
 - .2 Lead-Painted Material: Material that is coated with lead based paint that has been analyzed and determined to contain total lead concentrations in excess of 600 ppm, but less than 5 mg/L of leachable lead.
 - .3 Non-Hazardous Waste Material: Material which is non-hazardous as defined in Section 02 61 33 - Hazardous Waste Material.
- 1.3 REFERENCE STANDARDS
- 1 Canadian Council of Ministers of the Environment (CCME) Guidelines.
 - .2 CSA S350-M1980, Code of Practice for Safety in Demolition of Structures.
 - .3 National Building Code of Canada, Current Edition.
 - .4 Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities: NIOSH Publication No. 85-115.
 - .5 Hazardous Waste Worker Training Manual: Canadian LIUNA Contractors Training Council, 1992.
 - .6 Conduct all work in accordance with all appropriate Federal and Territorial legislation, and international conventions including, but not limited to:
 - .1 Canadian Federal Legislation
 - .1 Canadian Environmental Protection Act.
 - .2 Canadian Labour Code (Part II)
 - .3 Transportation of Dangerous Goods Act and Regulations
 - .2 Territorial Legislation
 - .1 GNWT Safety Act, R.S.N.W.T.
 - .2 GNWT General Safety Regulations,

R.R.N.W.T.

.3 Guidelines for the Management of Waste Lead and Lead Paint, NT

.4 Transportation of Dangerous Goods Act, S.N.W.T

.5 Transportation of Dangerous Goods Regulations, R.N.W.T

.6 Asbestos Safety Regulation

1.4 ENVIRONMENTAL PROTECTION .1 Ensure Work is done in accordance with Section 01 35 43 - Environmental Protection, and the AHJ.

1.5 WORK DESCRIPTION .1 Demolition, removal, and disposal of the structure as indicated in the Appendices and Drawings, and in accordance with the appended Demolition Waste Survey, including the following:
.1 Demolishing and sorting all non-hazardous waste building components comprising the structure and beneath the structure
.2 Dismantle, remove and dispose the above ground storage tank in accordance with Federal regulations and AHJ.
.3 Remove, Containerize and Dispose of hazardous waste material in accordance with Section 02 61 33 - Hazardous Waste Material.
.4 Restore, grade and reshape all areas affected by demolition work in accordance with Section 31 22 15 - Grading.

1.5 WORK DESCRIPTION .1 Demolition, removal, and disposal of the structure as indicated in the Appendices and Drawings, and in accordance with the Demolition Plan, including the following:
.1 Demolishing and sorting all non-hazardous waste building components comprising the structure and beneath the structure
.2 Dismantle and remove the above ground storage tank in accordance with Federal regulations and AHJ.
.3 Remove and dispose of asbestos material in accordance with Specification Section 02 82 11.
.4 Remove, Containerize and Dispose of hazardous waste material in accordance with Section 02 61 33 - Hazardous Waste Material.
.5 Restore, grade and reshape all areas affected by demolition work in accordance with Section 31 22 15 - Grading.

1.6 EXISTING CONDITIONS .1 The information presented that describes the structure to be demolished is based upon site conditions described in the reference documents. A summary of the estimated quantities of waste is provided in Appendix A.
.2 The information presented in the reference documents, including inventory tables and drawings,

provide brief descriptions of locations of materials. These tables and drawings indicate only the major work elements, and are not to be construed as exact for final demolition requirements. Contractor is responsible for all work described in this Section, which includes the complete demolition of all facilities and structures designated for demolition.

- .3 The information presented in the reference documents and summarized in Appendix B indicates types and quantities of hazardous waste materials that have been previously identified, and must be removed and disposed of. Should other potentially hazardous waste material, other than that already identified, be encountered in the course of demolition work, stop work immediately, and notify the Departmental Representative. Do not proceed until written instructions have been received from Departmental Representative.

1.7 DEMOLITION
DRAWINGS

- .1 Where required by authorities having jurisdiction, submit for approval drawings, diagrams or details showing sequence of disassembly work or supporting structures and underpinning. Submissions to bear stamp of qualified professional Engineer registered in the Northwest Territories.
- .2 Do not commence demolition work until the Contractor has demonstrated to the Departmental Representative that all required permits to be acquired by the Contractor for the work have been obtained.

1.8 PROTECTION

- .1 Install as required sediment controls and/or silt curtains in accordance with Section 01 35 43 - Environmental Protection where working adjacent to water or as directed by Departmental Representative or AHJ.
- .2 Take precautions to support structures and if safety of item being demolished or adjacent structures or services appear to be endangered, cease operations and notify the Departmental Representative.
- .3 Prevent damage and minimize stripping of natural terrain, features and vegetation. Make good all damage.
- .4 Ensure safe passage of persons around area of demolition.
- .5 Do not proceed with demolition work when weather conditions constitute a hazard to the workers and site. Prevailing weather conditions and weather forecast are to be considered.

1.9 FIRES

- .1 Fires are not permitted at the Site.
- .2 Provide fire response measures in accordance with Contractor's - Site Specific Health and Safety Plan.

PART 2 PRODUCTS

2.1 NOT USED .1 Not used.

PART 3 EXECUTION

3.1 WORK .1 Demolish existing structure as indicated and dispose of demolition debris as specified in this section and in Section 02 41 23 - Debris Removal, Section 02 61 33 - Hazardous Waste Removal, Section 02 83 11 - Lead-Base Paint Abatement - Intermediate Precautions, and Section 31 22 15 - Grading.

3.2 SAFETY AND PERSONNEL PROTECTION .1 Unless otherwise specified, carry out demolition work in accordance with Section 01 11 00 - Summary of Work.

3.3 PREPARATION .1 Inspect site and verify prior to demolition with the Departmental Representative the building, structures and utilities designated for demolition.
.2 Co-ordinate with NWT Power the disconnection of electricity.

3.4 DEMOLITION, DECOMMISSIONING AND DISMANTLING .1 The building and associated structures will be demolished to the base of the foundation unless otherwise indicated. Any exposed foundations are to be excavated and broken down to have a longest dimension as appropriate for transport to the Contractor off-site Receiving Site.
.2 Remove all materials indicated and described in Section 02 61 33 - Hazardous Waste Material.
.3 Cut structural steel and bulk fuel tanks in accordance with referenced standards.
.4 Cut non-hazardous materials in such shapes and sizes so as to optimize containerization of the material in preparation for off-site disposal at the Contractor's Receiving Site.
.5 At end of each day's work, leave work in safe condition so that no part is in danger of toppling or falling.
.6 Demolish in a manner that minimizes dust creation.
.7 Demolish, remove and lower structural framing and other heavy or large objects in a safe manner.

3.5 SITE GRADING AND RESTORATION .1 Upon completion of demolition work, remove debris and leave work sites clean to a condition satisfactory to the Departmental Representative.
.2 Reshape or grade areas excavated to facilitate demolition requirements in accordance with Section 31 22 15 -Grading.
.3 Do not begin grading of demolition areas until approval to do so is given in writing by the

Departmental Representative.

END OF SECTION

PART 1 - GENERAL

- 1.1 DESCRIPTION
- .1 This Section specifies the requirements for the recovery, consolidation, segregation, on-site handling, containerization, off-site transport and disposal of debris as generated from building demolition, located beneath the building, and located inside the building.
 - .2 A summary of the known debris volumes is provided in Appendix A and available in the reference documents.
 - .3 The work related to the management of hazardous materials will be done in accordance with the specifications under Section 02 61 33 - Hazardous Waste Material.
 - .4 The work related to the management of lead-based paint will be done in accordance with the specifications under Section 02 83 11 - Lead-Base Paint Abatement - Intermediate Procedures.
- 1.2 DEFINITIONS
- .1 Known Debris: All material which comprises the building, is located beneath the building, and is scattered across the site proper on the existing ground surface consisting of hazardous and non-hazardous material, and that:
 - .1 has been identified to be removed
 - .2 Unknown Debris: Scattered debris on the existing ground surface consisting of hazardous and non-hazardous material other than the Known Debris described above.
 - .3 Hazardous Waste Materials: Waste materials that are designated as hazardous under Territorial or Federal Legislation or as dangerous goods under the TDGA or CEPA (See Section 02 61 33 - Hazardous Materials).
 - .4 Non-Hazardous Waste Materials: Waste materials that are not designated as hazardous under Territorial or Federal Legislation.
 - .5 Non-Hazardous Waste Container: Containers suitable for shipping non-hazardous contaminated debris by land.
 - .6 Contractor's Receiving Site: Is the location the Contractor has selected for the disposal of the various waste streams that will be generated during the course of the site demolition works. The site must have the appropriate operating license to receive the material to be disposed at the facility. Provide to the Departmental Representative upon award of work documentation confirming the respective waste receiving sites to be used during the course of the remediation program.

PART 2 PRODUCTS

- 2.1 MATERIALS .1 Hazardous Waste Containers for hazardous waste materials in accordance with Section 02 61 33 - Hazardous Waste Materials.

PART 3 EXECUTION

- 3.1 PROTECTION PROCEDURES .1 When working in the vicinity of a drainage course or a body of water, prevent the release of sediment or deleterious materials into the water in accordance with Section 01 35 43 - Environmental Protection.
.2 Environmental protection measures, are to be in accordance with the requirements specified in Section 01 35 43 - Environmental Protection, and at the direction of the Departmental Representative.
.3 Remove oil and fuel, if present, from equipment to be disposed of as per Section 02 61 33 - Hazardous Waste Material.
.4 Maintain supply of overpack drums during debris removal activities to contain leaking hazardous materials.
.5 Erect sorbent booms around above ground storage tank during work.

- 3.2 REMOVAL AND SORTING .1 Examine the material type and nature of the debris.
.2 Proceed with the collection, consolidation and removal of debris if, based on the visual assessment, the debris is determined to be non-hazardous.
.3 Immediately suspend the operation if suspected hazardous material or debris is identified and allow visual confirmation of the nature of the material or debris to be established.
.4 Contractor's Hazardous Materials Specialist to continuously monitor the operation to identify potentially hazardous material.
.5 Store hazardous materials in a secured area in secured containers as required. Testing for classification of hazardous products will be carried out and paid for by Departmental Representative.
.6 Completely remove partially buried debris and foundations.
.7 Advise Departmental Representative of any spills occurring during the demolition works. At the direction of the Departmental Representative, excavate stained and contaminated soil area identified which was a result of the fresh spill.

Procedures to follow for potential spills to be described in the Spill Contingency Plan as part of the Site Specific Health and Safety Plan as per Section 01 11 00 - Summary of Work.

- .8 Advise Departmental Representative of any stained soils observed during the demolition works. Stained soils from historic site activities will be dealt with in a separate contract.

END OF SECTION

PART 1 - GENERAL

- 1.1 DESCRIPTION .1 This section specifies the requirements for the collection, containerization, transportation and disposal of hazardous waste except lead which is dealt with under Sections 02 83 11 - Lead-Base Paint Abatement - Intermediate Precautions
- .2 An inventory of known hazardous waste materials is provided in Appendix A and further detailed in the reference documents.
- 1.2 DEFINITIONS .1 Hazardous Waste Materials: Wastes materials that are designated as "hazardous" under Territorial or Federal legislation or guidelines; or as "dangerous goods" under the TDGA. The following items are designated as "hazardous" in accordance with the aforementioned legislation:
- .1 Asbestos (unbagged).
 - .2 Batteries.
 - .3 Solvents.
 - .4 Oils Containing Polychlorinated biphenyls (PCB) in excess of 2 ppm.
 - .5 Petroleum Distillates, including free product that may be recovered during contaminated soil excavation work.
 - .6 Tank Sludge.
 - .7 Soils and paint containing PCBs at concentrations in excess of 50 ppm (mg/kg) and/or leachable lead in excess of 5 ppm (mg/L).
 - .8 Material, including wastewater, groundwater and surface water, identified to be hazardous as the result of testing.
 - .9 Electrical equipment including, but not necessary limited to, capacitors, transformers, and regulators which contain or are suspected to contain PCBs at concentrations in excess of 50 mg/kg.
 - .10 Chemicals
 - .11 Miscellaneous Hazardous Materials defined as those materials not classified as 1 to 9 above but suspected to fall under the definition of Hazardous Wastes and Materials as stated in this Section.
- .2 Known Hazardous Material: material designated as hazardous in accordance with the definition of hazardous waste material in this Section, and which is included in the Waste Inventory in Appendix B. Known Hazardous Materials include:
- .1 Ozone-depleting substances
 - .2 Mercury-containing thermostats
 - .3 Smoke detectors
 - .4 Fluorescent lights and ballasts
 - .5 Exterior HID lights

- .6 Fire extinguishers
- .3 Unknown Hazardous Material: material designated as hazardous in accordance with the definition of hazardous waste material in this Section, and which has not been specifically identified for collection and disposal as part of other work components.
- .4 Known and Unknown Debris: As defined in Section 02 41 23 - Debris Removal.
- .5 Processing: the sampling, testing, packaging, and containerization of hazardous materials.
- .6 Shipping Container: a container which meets applicable TDGA Requirements for the transport of hazardous material and contains hazardous material.
- .7 Temporary Storage Area: the designated area, approved by Departmental Representative, for the storage of packaging and/or shipping containers prior to transport off-site. Requirements for the Temporary Storage Area are outlined in this Section.
- .8 Drum: for the purposes of these specifications a drum is a 205 L or smaller steel container used to hold fuel or other liquids.
- .9 Free Product: a visible layer of separated phase liquid petroleum hydrocarbon product
- .10 Contractor's Receiving Site for Hazardous Materials: The Licensed Hazardous Waste Disposal Facilities, designated by Contractor and pre-approved by Departmental Representative, for the disposal of all hazardous waste specified under the provisions of this contract. Contractor must be able to provide documentation from the Designated Hazardous Waste Disposal Facilities indicating full responsibility for all hazardous waste accepted from the Site.
- .11 Leachable Lead Painted Material: Material that is coated with lead based paint that has been analyzed and determined to contain leachable lead concentrations in excess of 5 mg/L.
- .12 Calibrated Scale: Scale certified by Measurement Canada for legal trade.

1.3 QUALIFICATIONS AND PERSONNEL PROTECTION

- .1 Follow at all times, guidelines such as those established in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities: NIOSH Publication No.85-115, or Hazardous Waste Worker Training Manual: Canadian LIUNA-Contractors Training Council, 1992.
- .2 All activities involving the handling of hazardous materials are to be directly supervised by Contractor's Hazardous Waste Specialist who has successfully completed a 40 hour training course for Hazardous Waste Activities in compliance with OSHA 29 CFR 1910.120 or other approved equivalent training courses such as the Canadian Hazardous Waste Workers Program.
- .3 Contractor's personnel trained as described in this Section are to instruct and direct all workers with

- respect to the waste management procedures and labour and safety practices to be followed in carrying out the work.
- .4 Provide workers with protection appropriate to the potential type and level of exposure. Establish specific safety protocols prior to commencing cleanup activities.
 - .5 Provide suitable safety clothing and equipment as required during the course of the work. Supply sufficient quantities of protection equipment to fit all site personnel including Departmental Representative, Departmental Representative's staff, and site visitors.

PART 2 PRODUCTS

2.1 HAZARDOUS WASTE MATERIAL CONTAINERS

- .1 Hazardous Waste Containers:
 - .1 Containers are to satisfy the requirements of the latest edition of the *Transportation of Dangerous Goods (TDG) Act* and Regulations.
 - .2 Submit details of the containers to Departmental Representative for review prior to commencement of the work. These details are to include written confirmation from Transport Canada that Contractor's proposed containers satisfy TDGA regulatory requirements for marine transport for those materials being transported south by barge.
 - .3 Containers are to include all necessary liners to satisfy the TDGA requirements for ground transport via the local road system.
- .2 For packaging and containerization requirements of hazardous waste materials, all requirements of the *TDG Act* and Regulations must be met.
- .3 Contain lead-based paint in accordance with Sections 02 83 11 - Lead-Base Paint Abatement - Intermediate Precautions.
- .4 Provide access for Departmental Representative to inspect all Hazardous Material Packaging.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- .1 Conduct all work in accordance with all appropriate Municipal, Federal, Provincial and Territorial legislation, and international conventions.
- .2 Individuals shipping and receiving hazardous waste materials are to be licensed under the TDGA and Regulations, and appropriate territorial environmental acts and regulations.
- .3 Only trained individuals or individuals working under the direct supervision of trained persons are to handle or transport dangerous goods.
- .4 Where Hazardous Materials are part of demolition

items, proceed with demolition in accordance with Section 02 41 16 - Structure Demolition Provide protection and precautions as outlined in this Section.

- .5 Submit Certificates of Disposal to Departmental Representative upon transfer of materials to disposal site. Submit bills of lading to Departmental Representative upon transfer of materials to barge.

3.2 PROTECTION

- .1 Avoid releasing any hazardous materials into the environment during handling of hazardous waste materials.
- .2 In the event of a spill, invoke the emergency response plan and take appropriate action.
- .3 Provide a full range of cleanup and protective equipment at the site to contain and cleanup spills, and protect personnel, as required. The cleanup equipment is to include booms (sorbent and containment), sorbents for cleanup, fire extinguishers for A-B-C fires, overpacks for contaminated soils, pumps, hand shovels, picks and containment barriers, such as plastic sheeting. Personnel protective equipment is to include clothing, protective suits, respirators, etc. to comply with potential emergency conditions and in accordance with NIOSH guidelines.
- .4 Site personnel handling hazardous waste material are required to wear environmental protection equipment in accordance with NIOSH guidelines.
- .5 Establish a Temporary Storage Area as indicated.
- .6 Handle materials containing lead in accordance with Section 02 83 11 - Lead-Base Paint Abatement - Intermediate Precautions.

3.3 TEMPORARY STORAGE AREA

- .1 Establish a Temporary Storage Area for the purpose of:
 - .1 Sorting, packaging, sampling, and processing hazardous waste materials;
 - .2 Consolidation of compatible liquids and solids, packaging for shipment; and
 - .3 Consolidation of non-hazardous debris prior to transfer off-site to the Contractor's Receiving Site.
- .2 Establish the Temporary Storage Area to:
 - .1 be of sufficient size and capacity to accommodate the volume of hazardous material and equipment to be disposed of off-site, and the volume of non-hazardous debris to be transferred to the Contractor's Receiving Site, and
 - .2 isolate hazardous materials from other work operations.
- .3 Immediately clean up any spills, leaks, or other releases of liquid or sediment from this area as per Section 01 35 43 - Environmental Protection, and in accordance with the Site Specific Health and Safety Plan.

3.4 REMOVAL AND
SORTING OF HAZARDOUS
WASTE MATERIALS

- .4 Submit details of the Temporary Storage Area to Departmental Representative for review and approval prior to commencing remediation activities.
- .5 Submit to Departmental Representative a detailed inventory of the contents of each container and packaging configuration.
- .1 Continually monitor the demolition operation to identify potentially hazardous material.
- .2 Immediately suspend the operation if suspected hazardous material or debris is identified and allow visual confirmation of the nature of the material or debris to be established.
- .3 Store suspicious material in a secured area or secured containers, if the nature of the material or debris can not be confirmed. Advise Departmental Representative about the findings. Material needs to be seized until the nature of the material is confirmed by Departmental Representative. Testing for classification will be carried out and paid for by Departmental Representative.
- .4 Remove hazardous waste materials from their place of origin, place in containers, and transport containers to the Temporary Storage Area.
- .5 Remove hazardous liquid waste from the AST and associated pipes in accordance with AHJ and Federal regulations, place in containers, and transport off-site to the Contractor's Receiving Site.
- .6 Remove hazardous materials derived from demolition work from their place of origin in accordance with Section 02 41 16 - Structure Demolition place in containers and transport to Contractor's Receiving Site.
- .7 Remove lead based paint in accordance with Section 02 83 11 - Lead-Base Paint Abatement - Intermediate Precautions.
- .8 Avoid releasing any hazardous materials into the environment during the handling of hazardous waste materials.
- .9 Invoke the approved emergency response plan and take the appropriate action in the event of a spill or other emergency situation.
- .10 Have available, a full range of cleanup and protective equipment (PPE) at the site of debris removal to contain and cleanup spills, and protect personnel as required. The cleanup is to include booms (sorbent and containment), sorbents for cleanup, over-packs for drums and contaminated soils, pumps, hand shovels, and picks.
- .11 Personnel protective equipment as per The Contractor Site Specific Health and Safety Plan is to include clothing protective suits respirators etc in accordance with NIOSH Guidelines and to comply with anticipated and potential emergency conditions.
- .12 Site personnel in the vicinity of the debris removal operations or handling hazardous material

are required to wear environmental protection equipment in accordance with NIOSH guidelines and the Site Specific Health and Safety Plan.

.13 Advise Departmental Representative of any spills during debris removal operations. Immediately clean up any spills, leaks, or other releases of liquid or sediment from this area as per Section 01 35 43 - Environmental Protection, and in accordance with the Site Specific Health and Safety Plan.

.14 Submit details of the containers for handling and disposal of hazardous waste materials to Departmental Representative for review prior to commencement of site remediation activities. Include all required approvals, as well as a description of the type and volume of containers.

3.5 CLEANING OF FUEL TANKS AND PIPELINES ON EXISTING EQUIPMENT

- .1 On-site equipment and debris to be packaged for off-site transport may contain or have fuel or oil reservoirs which may contain product.
- .2 Prior to the demolition and removal of any liquid reservoirs and associated lines drain all equipment in accordance with Federal and Territorial Regulations.
- .3 Place all similar liquid waste as well as any absorbent materials used in recovering the liquid waste into drums for off-site disposal at the Contractor's Designated Hazardous Waste Disposal Facility.

3.6 INVENTORY AND PACKAGING OF CONTAINERS

- .1 Provide a numbering system and maintain an inventory of all containers to be transported and disposed of off-site.
- .2 Label all containers, using spray paint or other means, with the Container number and contents (e.g. Haz Debris).
- .3 Package and label each hazardous material" in accordance with the "Class" and "Packaging Group" as per the TDGA.
- .4 Submit to Departmental Representative, a copy of the inventory of the contents of each container.
- .5 Provide certificates to the Departmental Representative of the hazardous waste material disposal once the waste material has been received by the Contractor's Receiving Site and prior to final payment.

END OF SECTION

PART 1 - GENERAL

- 1.1 SUMMARY .1 Comply with requirements of this Section when performing following Work:
- .1 Removal of lead-based paint from the building by scraping or sanding using non-powered hand tools.
 - .2 Manual demolition of lead-painted walls or building components by striking wall with sledgehammer or similar tool.
- 1.2 REFERENCES .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 Government of Northwest Territories, Department of Environment: Environmental Guideline for the General Management of Waste Lead and Lead Paint (Original 2001, updated 2011).
- 1.3 DEFINITIONS .1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with 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] and representatives of regulatory agencies.
 - .3 Occupied Area: areas of building or work site that is outside Work 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 Airlock: ingress or egress system, without permitting air movement between contaminated area

and uncontaminated area. Consisting of two curtained doorways at least 2 m apart.

- .6 Curtained doorway: arrangement of closures to allow ingress and egress from one room to another. Typically constructed as follows:
 - .1 Place two overlapping polyethylene sheets over existing or temporarily framed doorway, securing each along top of doorway, securing vertical edge of one sheet along one vertical side of doorway, and secure other sheet along opposite vertical side of doorway.
 - .2 Reinforce free edges of polyethylene with duct tape and add weight to bottom edge to ensure proper closing.
 - .3 Overlap each polyethylene sheet at openings 1.5 m on each side.
- .7 Action level: employee exposure, without regard to usage of respirators, to an airborne concentration of lead of 50 micrograms per cubic meter of air calculated as 8 hour time-weighted average (TWA). Intermediate precautions for lead abatement are based on airborne lead concentrations greater than 0.05 milligrams per cubic meter of air within Work Area.
- .8 Competent person: individual capable of identifying existing lead hazards in workplace and taking corrective measures to eliminate them.
- .9 Lead in Dust: wipe sampling on vertical and/or horizontal surfaces, dust and debris is considered to be lead contaminated if it contains more than 40 micrograms of lead in dust per square foot.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide proof satisfactory to Departmental Representative that suitable arrangements have been made to dispose of lead-based paint waste in accordance with requirements of authority having jurisdiction.
- .3 Provide: Provincial, Territorial and local requirements for Notice of Project Form.
- .4 Provide proof of Contractor's General and Environmental Liability Insurance.
- .5 Quality Control:
 - .1 Provide Departmental Representative necessary permits for transportation and disposal of lead-based paint waste and proof that it has been received and properly disposed.
 - .2 Provide proof satisfactory to Departmental Representative that employees have had instruction on hazards of lead exposure, respirator use, dress, entry and exit from Work Area, and aspects of work procedures and protective measures.
 - .3 Provide proof that supervisory personnel have attended lead abatement course, of not less than

two days duration, approved by Departmental Representative. Minimum of one supervisor for every ten workers.

- .6 Product data:
 - .1 Provide documentation including test results, fire and flammability data, and Material Safety Data Sheets (MSDS) for chemicals or materials including:
 - .1 Encapsulants.
 - .2 Amended water.
 - .3 Slow drying sealer.

1.5 QUALITY ASSURANCE .1

Regulatory Requirements: comply with Federal, Provincial/Territorial and local requirements pertaining to lead paint, 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 Safety Requirements: worker and visitor protection.
 - .1 Protective equipment and clothing to be worn by workers and visitors in Work Area includes:
 - .1 Respirator NIOSH approved and equipped with filter cartridges with assigned protection factor of 50, acceptable to Authority having jurisdiction. Suitable for type of lead and level of lead dust exposure in Lead Work Area. Provide sufficient filters so workers can install new filters following disposal of used filters and before re-entering contaminated areas.
 - .2 Disposable type protective clothing that does not readily retain or permit skin contamination, consisting of full body covering including head covering with snug fitting cuffs at wrists, ankles, and neck.
 - .2 Requirements for workers:
 - .1 Remove street clothes in clean change room and put on respirator with new filters or reusable filters, clean coveralls and head covers before entering Equipment and Access Rooms or Work Area. Store street clothes, uncontaminated footwear, towels, and similar uncontaminated articles in clean change room.
 - .2 Remove gross contamination from clothing before leaving work area. Place contaminated work suits in receptacles for disposal with other

lead - contaminated materials. Leave reusable items except respirator in Equipment and Access Room. When not in use in Work Area, store work footwear in Equipment and Access Room. Upon completion of lead abatement, dispose of footwear as contaminated waste or clean thoroughly inside and out using soap and water before removing from Work Area or from Equipment and Access Room.

.3 Enter unloading room from outside dressed in clean coveralls to remove waste containers and equipment from Holding Room of Container and Equipment Decontamination Enclosure system. Workers not to use this system as means to leave or enter work area.

.2 Eating, drinking, chewing, and smoking are not permitted in Work Area.

.3 Ensure workers are fully protected with respirators and protective clothing during preparation of system of enclosures prior to commencing actual lead abatement.

.4 Ensure workers wash hands and face when leaving Work Area. Facilities for washing are located as indicated on drawings.

.5 Provide and post in Clean Change Room and in Equipment and Access Room the procedures described in this Section, in both official languages.

.6 Ensure no person required to enter Work Area has facial hair that affects seal between respirator and face.

.7 Visitor Protection:

.1 Provide protective clothing and approved respirators to Authorized Visitors to Work Areas.

.2 Instruct Authorized Visitors in use of protective clothing, respirators and procedures.

.3 Instruct Authorized Visitors in proper procedures to be followed in entering into and exiting from Work Area.

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- 1.6 WASTE MANAGEMENT AND DISPOSAL
- .1 Separate waste materials for disposal in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal regulations.
 - .3 Disposal of lead waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of lead waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.
 - .4 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.
- 1.7 EXISTING CONDITIONS
- .1 The laboratory results from the Demolition Waste Survey conducted in 2013 indicated that several paint samples collected from the site contained concentrations of lead in excess of the recommended limit of the Government of the Northwest Territories. Samples of paint collected were in excess of the *Environmental Guideline for Waste Lead and Lead Paint* - GNWT April 2001 which states that "Products that contain lead in excess of 600 parts per million (0.06% by weight) are considered hazardous waste and shall be managed in accordance with this guideline".
 - .2 Significant peeling and delamination of paint was noted inside and outside the building at the time of the inspection.
 - .3 Reports and information pertaining to lead based paint to be handled, removed, or otherwise disturbed and disposed of during this Project are bound into this specification.
 - .4 Notify Departmental Representative of lead based paint discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material until instructed by Departmental Representative.
- 1.8 SCHEDULING
- .1 Not later than two days before beginning Work on this Project notify the following in writing, where appropriate:
 - .1 Appropriate Regional or Zone Director of Medical Services Branch, Health Canada.
 - .2 Disposal Authority.
 - .2 Inform sub trades of presence of lead-containing materials identified in Existing Conditions.
 - .3 Provide Departmental Representative copy of notifications prior to start of Work.

PART 2 - PRODUCTS

- 2.1 MATERIALS
- .1 Polyethylene: 0.15 mm unless otherwise specified; in sheet size to minimize joints.
 - .2 FR polyethylene: 0.15 mm woven fibre reinforced fabric bonded both sides with polyethylene.
 - .3 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under dry conditions and wet conditions using amended water.
 - .4 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for trapping residual lead paint residue.
 - .5 Lead waste containers: metal or fibre type acceptable to dump operator with tightly fitting covers and 0.15 mm sealable polyethylene liners.
 - .1 Label containers with pre-printed bilingual cautionary "Warning Lead" clearly visible when ready for removal to disposal site.

PART 3 - EXECUTION

- 3.1 SUPERVISION
- .1 Approved Supervisor must remain within Lead Work Area during disturbance, removal, or other handling of lead-based paints.
- 3.2 PREPARATION
- .1 Contractor to provide a proposed layout under the SUBMITTALS paragraph of this Section.
 - .2 Work Area:
 - .1 Shut off and isolate HVAC system to prevent dust dispersal into other building areas. Conduct smoke tests to ensure duct work is airtight.
 - .2 Clean work areas using HEPA vacuum. If not practicable, use wet cleaning method. Do not use methods that raise dust, such as dry sweeping, or vacuuming using other than HEPA vacuum.
 - .3 Seal off openings, corridors, doorways, windows, skylights, ducts, grilles, and diffusers, with polyethylene sheeting sealed with tape.
 - .4 Cover floor surfaces in work area from wall to wall with FR polyethylene drop sheets to protect existing floor during removal.
 - .5 Build airlocks at entrances and exits from work areas to ensure work areas are always closed off by one curtained doorway when workers enter or exit.
 - .6 At point of access to work areas install warning signs in both official languages in upper case "Helvetica Medium" letters reading as follows where number in parentheses indicates font size to be used:
 - .1 CAUTION LEAD HAZARD AREA (25 mm).
 - .2 NO UNAUTHORIZED ENTRY (19 mm).

- .3 WEAR ASSIGNED PROTECTIVE EQUIPMENT AND RESPIRATOR (19 mm).
- .4 BREATHING LEAD CONTAMINATED DUST CAUSES SERIOUS BODILY HARM (7 mm).
- .7 Maintain emergency and fire exits from work areas, or establish alternative exits satisfactory to Authority having jurisdiction.
- .8 Where water application is required for wetting lead-containing materials, provide temporary water supply by use of appropriately sized hoses for application of water as required.
- .9 Provide electrical power and shut off for operation of powered tools and equipment. Provide 24 volt safety lighting and ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard. Ensure safe installation of electrical lines and equipment.
- .3 Worker Decontamination Enclosure System:
 - .1 Worker Decontamination Enclosure System includes Equipment and Access Room and Clean Room, as follows:
 - .1 Equipment and Access Room: construct between exit and work areas, with two curtained doorways, one to the rest of suite, and one to work area. Install waste receptor and storage facilities for workers' shoes and protective clothing to be re-worn in work areas. Build large enough to accommodate specified facilities, equipment needed, and at least one worker allowing sufficient space to change comfortably.
 - .2 Clean Room: construct with curtained doorway to outside of enclosures. Provide lockers or hangers and hooks for workers' street clothes and personal belongings. Provide storage for clean protective clothing and respiratory equipment. Install mirror to permit workers to fit respiratory equipment properly.
- .4 Construction of Decontamination Enclosures:
 - .1 Construct framing for enclosures or use existing rooms. Line enclosure with polyethylene sheeting and seal with tape; apply two layers of FR polyethylene on floor.
 - .2 Construct curtain doorways between enclosures so when people move through or waste containers and equipment are moved through doorway, one of two closures comprising doorway always remains closed.
- .5 Maintenance of Enclosures:
 - .1 Maintain enclosures in clean condition.
 - .2 Ensure barriers and polyethylene linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately.
 - .3 Visually inspect enclosures at beginning of each work day.

.4 Use smoke test method to test effectiveness of barriers as directed by Departmental Representative.

3.3 LEAD-BASED PAINT ABATEMENT

- .1 Removal of lead-based paint to be performed by scraping or sanding using non-powered hand tools, or manual demolition of lead-painted plaster walls or building components by striking a wall with sledgehammer or similar tool.
- .2 Remove lead-based paint in small sections and pack as it is being removed in sealable 0.15 mm plastic bags and place in labelled containers for transport.
- .3 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to Staging Area. Clean external surfaces thoroughly again by wet sponging before moving containers to decontamination Washroom. Wash containers thoroughly in decontamination Washroom, and store in Holding Room pending removal to Unloading Room and outside. Ensure containers are removed from Holding Room by workers who have entered from uncontaminated areas dressed in clean coveralls.
- .4 After completion of stripping work, wire brush and wet sponge surface from which lead based paint has been removed to remove visible material. During this work keep surfaces wet.
- .5 After wire brushing and wet sponging to remove visible lead based paint, and after encapsulating lead-containing material impossible to remove, wet clean work area including equipment and access room, and equipment used in process. After inspection by Departmental Representative apply continuous coat of slow drying sealer to surfaces. Do not disturb work for 8 hours with no entry, activity, ventilation or disturbance during this period.
- .6 After enclosing lead painted surfaces, wet clean work area and equipment and access room. During settling period no entry, activity, or ventilation will be permitted.

3.4 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.
 - .3 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.

- .3 When lead dust leakage from Work Area occurs Departmental Representative may order Work shutdown.
.1 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.
- 3.5 LEAD SURFACE SAMPLING - WORK AREAS .1 Final lead surface sampling to be conducted as follows:
.1 After Work Area has passed a visual inspection for cleanliness approved by Departmental Representative and acceptable coat of lock-down agent has been applied to surfaces within enclosure, and appropriate setting period of 8 hours has passed. Departmental Representative will perform lead wipe sampling in Work Area.
.1 Final lead wipe sampling results from horizontal and vertical surfaces where lead based paints have been removed must show lead levels of less than 40 micrograms of lead in dust per square foot. Samples must be collected and analyzed in accordance with EPA 747-R-95-007.
.2 If wipe sampling results show levels of lead in excess of 40 micrograms per square foot, re-clean work area at contractor's expense and apply another acceptable coat of lock-down agent to surfaces.
.3 Repeat as necessary until fibre levels are less than 40 micrograms per square foot.
- 3.6 FINAL CLEANUP .1 Following specified cleaning procedures, and when lead wipe sampling is below acceptable concentrations proceed with final cleanup.
.2 Remove polyethylene sheet by rolling it away from walls to centre of work area. Vacuum visible lead-containing particles observed during cleanup, immediately, using HEPA vacuum equipment.
.3 Place polyethylene seals, tape, cleaning material, clothing, and other contaminated waste in plastic bags and sealed labelled waste containers for transport.
.4 Clean-up Work Areas, Equipment and Access Room, and other contaminated enclosures.
.5 Clean-up sealed waste containers and equipment used in Work and remove from work areas, via Container and Equipment Decontamination Enclosure System, at appropriate time in cleaning sequence.
.6 Conduct final check to ensure no dust or debris remains on surfaces as result of dismantling operations.

END OF SECTION

PART 1 - GENERAL

- 1.1 REFERENCES
- .1 American Board of Industrial Hygiene (ABIH)
 - .2 Canadian Council of Ministers of the Environment (CCME)
 - .1 PN1205-[1995], PCB Transformer Decontamination: Standards and Protocols.
 - .3 Department of Justice Canada (Jus)/CEPA SOR/92-507-[SOR/2000-102], Storage of PCB Material Regulations
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
 - .4 Environment Canada
 - .1 Manual for Spills of Hazardous Materials-1985.
 - .2 Identification of lamp ballasts containing PCBs, Environment Canada, 1991.
 - .5 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
 - .6 Chlorobiphenyls Regulations (SOR/91-152; Amended SOR/2000-102)
 - .1 Regulations Respecting Mobile System for the Destruction and Treatment of Chlorobiphenyls that are Operated by or Under Contract with Federal Institutions (SOR/90-5; amended SOR/93-231 and SOR/2000-105).
 - .2 Regulations Respecting the Storage of Material Containing Chlorobiphenyls (PCBs) SOR/92-507, Amended SOR/2000-102).
 - .3 Regulations Respecting the Import and Export of Hazardous Wastes (SOR/92-637; Amended 94-459; SOR 94-684; SOR/2000-103).
 - .4 Waste Management - PCBs, R.R.O. Regulation 362/90.
 - .5 Mobile PCB Destruction Facilities, R.R.O. Regulation 352/90.
 - .6 Regulation 347, General Waste Management, as Amended.
- 1.2 ACTION AND INFORMATIONAL SUBMITTALS
- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Prior to starting work, Contractor performing work of this section to provide:
 - .1 Workplace Safety and Insurance Board Clearance Certificate.
 - .2 Insurance certificates.
 - .3 Company Health and Safety Policy.
 - .4 Certificate of Approval for Transportation of PCB Waste and Location of Destruction Facility.
 - .5 WHMIS Training Certificates for Personnel.
 - .6 Material Safety Data Sheets for chemicals or material to be used.

- .3 Waste location and description including:
 - .1 Building in which PCB waste is stored.
 - .2 Size of property used for storage site.
 - .3 Precise location of PCB waste at storage site.
 - .4 Container storage method used.
 - .5 Spill containment features in place at storage site.
 - .6 Security measures in place at storage site.
 - .7 Fire detection systems in place at storage site.

- 1.3 CONTROL SUBMITTALS .1 Record keeping: maintain and make available for review by Departmental Representative
 - .1 Receipt of waste showing:
 - .1 Date of receipt of waste.
 - .2 Description of PCB waste including nameplate description, serial number, PCB registration number and quantity.
 - .3 Condition of PCB waste.
 - .4 Source of PCB waste.
 - .5 Name of carrier of PCB waste.
 - .6 Name of individual who accepted receipt of PCB waste.
 - .2 Removal of waste showing:
 - .1 Date of removal of PCB waste.
 - .2 Description of PCB waste including nameplate description, serial number, PCB registration number and quantity.
 - .3 Condition of PCB waste.
 - .4 Name of carrier of PCB waste.
 - .5 Destination of PCB waste.
 - .6 Name of individual authorizing transport of PCB waste.
- .2 Submit records to Departmental Representative as requested.

- 1.4 QUALITY ASSURANCE .1 Instruct personnel on dangers of PCB exposure, respirator use, decontamination and applicable Federal, Provincial/Territorial and Municipal Regulations.
 - .2 Complete work so that at no time do PCB's contaminate the building, site and environment.

- 1.5 SUPERVISION .1 Provide on site a supervisor, with authority to oversee health and safety, remediation methods, scheduling, labour and equipment requirements.
 - .2 One supervisor for every 10 workers is required.

- 1.6 DELIVERY, STORAGE AND HANDLING .1 Place materials defined as hazardous or toxic in designated containers.
 - .2 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
 - .3 Owners or operators of storage sites.
 - .1 Provide method for determining concentration

- of PCBs in particular waste at request of Departmental Representative.
- .2 Ensure personnel are familiar with and understand current PCB waste management procedures and use of personal protection equipment and clean-up techniques.
 - .4 Disposal of PCB waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations.
 - .1 Dispose of PCB waste in leak proof drums.
 - .2 Containers must be labelled with appropriate warning labels.
 - .5 Create manifests describing and listing waste created and transport containers by approved means to licensed facility for storage.
 - .1 For each bulk load of PCBs: identity PCB waste, earliest date of removal from service for disposal, and weight in kilograms of the PCB waste.
 - .2 For each PCB Article Container or PCB Container: unique identifying number, type of PCB waste (i.e., soil, debris, small capacitors), earliest date of removal from service for disposal, and weight in kilograms of PCB waste contained.
 - .3 For each PCB Article not in PCB Container or PCB Article Container: serial number if available, or other identification if there is no serial number, date of removal from service for disposal, and weight in kilograms of PCB waste in each PCB Article.

PART 2 - PRODUCTS

- 2.1 STORAGE GENERAL .1 Storage of PCB materials must be in accordance with CEPA SOR/92-507.
- 2.2 STORAGE ENCLOSURE .1 Isolate PCB control area by physical boundaries to prevent unauthorized entry of personnel.
 - .2 Food, drink and smoking materials are not permitted in areas where PCBs are handled or PCB items are stored.
 - .3 Room, building or structure with lockable entrance.
 - .4 Temporary storage facility to be a fully enclosed block wall room within building with appropriate warning signs.
 - .5 Woven mesh wire fence or other fence with similar characteristics at least 2.0 metres high, with lockable entrance.
 - .6 Smoking is not permitted within 15 m of PCB control area.
 - .1 Provide and post "No Smoking" signs as directed by Departmental Representative.
- 2.3 STORAGE CONTAINERS .1 Exterior Containers
 - .1 Structurally-sound and weather-sealed to hold PCB solids, PCB light ballasts, drained PCB

- containers or drained PCB equipment.
- .2 PCB liquid or solid storage.
 - .1 Drums and containers:
 - .1 Designed with sufficient durability and strength to prevent PCB from being released into environment, affected by weather, or contaminated by external sources.
 - .3 Drums:
 - .1 Capacity no greater than 205 litres.
 - .2 Steel of minimum 1.2 mm for solids or 1.52 mm for liquids.
 - .3 Ensure removable steel lid securely attached and complete with PCB-resistant gasket for solids.
 - .4 Paint or treat interior and exterior to prevent rusting.
 - .4 Drum Liners:
 - .1 6 mil clear polyethylene bag, 914 mm x 1524 mm, with opening at 914 mm end.
- 2.4 EMERGENCY RESPONSE .1 Temporary Storage site clean-up materials:
 - .1 Ensure availability at all time of sorbent or solvents, for clean-up of liquid or solids.
 - .2 Ensure availability at all times of inert absorbent in sufficient quantity to contain minor leakage.
 - .1 Place in bottom of each container holding PCB equipment or fluorescent lighting ballasts.
 - .2 Respirators: Certified by the National Institute of Occupational Safety and Health (NIOSH) or other testing agency acceptable to the Ministry of Labour.
 - .1 Use approved full-face organic vapour cartridge respirator for exposure to hot PCB.
 - .2 Vapour concentration less than or equal to 5 mg/m³.
 - .1 Supplied-air respirator with full face piece, helmet or hood.
 - .2 Self-contained breathing apparatus with full face piece.
 - .3 Vapour concentration greater than 5 mg/m³ or unknown concentrations.
 - .1 Self-contained breathing apparatus with full face piece operated in positive pressure mode.
 - .2 Type C supplied-air respirator with full face piece operated in positive pressure of continuous flow mode and auxiliary self-contained breathing apparatus operated in positive pressure mode.
 - 2.5 WARNING SIGNS AND .1 Label capacitors containing 0.5 kilogram or more of LABELS chlorobiphenyls with black and white serialized label, measuring 76 x 76 mm, as approved by Departmental Representative in accordance with TDGA requirements.

- .2 Label container with a capacitor containing 0.5 kg or more of chlorobiphenyls with black and white serialized, "ATTENTION PCB" label, measuring 150 x 150 mm, as approved by Departmental Representative in accordance with TDGA requirements.
- .3 Label electrical transformers, electromagnets and other equipment containing chlorobiphenyls in concentration exceeding 1% with black and white, serialized, "ATTENTION PCB" label, measuring 150 x 150 mm, as approved by Departmental Representative in accordance with TDGA requirements.
- .4 Maintain signs and labels in clear and legible condition.

PART 3 - EXECUTION

3.1 GENERAL

- .1 Do construction occupational health and safety in accordance regulatory requirements and industry best practices.
- .2 Store PCB waste materials in accordance to CEPA SOR/92-507.
- .3 Select PCB removal procedure to minimize contamination of work areas with PCB or other PCB-contaminated debris/waste. Handle PCBs such that no skin contact occurs.
- .4 As feasible, do not carry out PCB handling operations in confined spaces. Confined space means space having limited means of egress and inadequate cross ventilation.
- .5 Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with Federal, Provincial/Territorial and Municipal Regulations and applicable requirements of this Section, including but not limited to:
 - .1 Obtaining advance approval of PCB storage sites.
 - .2 Notify Departmental Representative prior to beginning operations.
 - .3 Report leaks and spills to Departmental Representative.
 - .4 Maintain access log of employees working in PCB control area and provide copy to Departmental Representative upon completion of operations.
 - .5 Inspect PCB and PCB-contaminated items and waste containers for leaks and forward copies of inspection reports to Departmental Representative.
 - .6 Maintain spill kit for emergency spills entitled "PCB Spill Kit".
 - .7 Maintain inspection, inventory and spill records.

3.2 ACCESS TO STORED MATERIAL

- .1 Store materials and equipment to permit easy access for inspection.

- 3.3 STORAGE PRACTICES
- .1 Stack containers only if designed for stacking.
 - .2 Stack containers or drums no higher than 2 containers.
 - .3 Separate stacked drums from each other with pallets.
 - .4 Store material to prevent it from catching fire.
 - .5 Store material to prevent it from being released.
 - .6 Store PCB material together, and away from other stored materials.
 - .7 Exterior:
 - .1 Cover PCB liquid containers with waterproof roof or cover extending beyond curbing or sides of container.
 - .2 Elevate PCB waste containers and PCB equipment on pallets or other suitable devices to reduce corrosion.
 - .3 Store transformers on skids.
 - .8 Interior:
 - .1 Place on skids or pallets PCB equipment and containers of PCB material not permanently secured to floor or surface.
- 3.4 EMERGENCY RESPONSES
- .1 General:
 - .1 Immediately report to Departmental Representative PCB spills on ground or in water, PCB spills in drip pans, or PCB leaks.
 - .2 Rope off area around edges of PCB leak or spill and post "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to drip pan or other container.
 - .3 Initiate cleanup of spills as soon as possible, but no later than 48 hours of its discovery. If misting, elevated temperatures or open flames are present, or if spill is situated in confined space, notify Departmental Representative. Mop up liquid with rags or other conventional absorbent. Properly contained and dispose of spent absorbent as solid PCB waste.
 - .4 Workers to evacuate site. When leaving, shut down water in use. Only personnel trained in use of, and wearing SCBA apparatus, will be allowed to re-enter site.
 - .5 Do not return to site until Owner's representative and Ministry of the Environment representatives have declared the area safe for re-entry.
 - .2 Spill, leak, and disposal procedures:
 - .1 Permit access to only those wearing protective equipment and clothing.
 - .2 Issue poison warnings.
 - .3 Call local fire department or PCB Emergency Response Team.
 - .4 Avoid contact and inhalation.
 - .5 Remove ignition sources.
 - .6 Ventilate areas of spill or leak.
 - .7 Stop or reduce discharge if possible without risk.

- .8 Collect spilled material for reclamation.
- .9 Do not flush to sewer.
- .10 Use only inert absorbents as approved by Departmental Representative.
- .11 Wipe contaminated area with rags and fuel oil. Do not use acetone or toluene.
- .12 Notify environmental authorities to determine disposal and clean-up procedures.
- .3 Respirators:
 - .1 Use when chlorobiphenyl concentrations are above permissible exposure levels.
 - .2 Use when entering tanks or closed vessels.
 - .3 Use in emergency situations.
- .4 Permissible exposure limit.
 - .1 1.0 microgram of chlorobiphenyl (54% chlorine) per cubic metre of air up to 10 hours/day.
- .5 Fire protection:
 - .1 Wear totally encapsulated suit and self-contained breathing apparatus with full face piece operated in positive pressure mode.

3.5 SANITATION

- .1 Promptly wash liquid-contaminated skin with soap or mild detergent and water.
- .2 Prohibit eating and smoking in areas where liquid chlorobiphenyl (54% chlorine) is handled, processed or stored.
- .3 Wash hands thoroughly with soap or mild detergent and water after handling liquid chlorobiphenyl (54% chlorine).

END OF SECTION