

APPENDIX "A"

Lead Abatement Scope of Work

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The following scope of work is for the demolition and lead abatement to decontaminate the firing range facility and its associated mechanical, electrical and drainage systems.

GENERAL

1. The work area includes the firing range, observation area, weapons cleaning area/decontamination room, back corridor between the mechanical rooms, mechanical rooms 061 and 062, the crawlspace above the range and the ERT room as indicated on Figure 1. Note that the ERT room will need to be emptied and unoccupied during the completion of the work.
2. The contractor and its sub-contractors working in the work area shall follow the Standard Operating Procedures for the RCMP “J” Divisional Facility Firing Range (November 2012), herein referred to as the “SOPs document”, enclosed in Appendix.
3. The contractor shall identify all entry and exit points to the work area that are required for the demolition and lead abatement work.

2. GENERAL DEMOLITION

1. Demolition in the Observation Area and Weapons Cleaning Area/Decontamination Room shall include:
 - a. Removal of all wall mounted items.
 - b. Removal of any stored and other miscellaneous items.
 - c. Removal of ceiling tiles complete with grid.
 - d. For Removal of Electrical Components see under Electrical Demolition.
2. Demolition in Firing Range shall include:
 - a. Removal of all acoustic wall and ceiling panels complete with mounting components.
 - b. Removal of all range dividers, target retrieval tracks and motors.
 - c. Removal of all ceiling metal baffles (deflectors).
 - d. Removal of bullet trap including tray and metal panels located at end of range.
 - e. Removal of any stored or miscellaneous items.
 - f. For Removal of Electrical Components see under Electrical Demolition.
 - g. For Removal of Mechanical Components see under Mechanical Demolition.
3. Demolition in Mechanical Room 061, 062 and ERT Room shall include:
 - a. For Removal of Mechanical Components see under Mechanical Demolition.
 - b. Removal of any stored or miscellaneous items.
4. Electrical Demolition includes:
 - a. All lighting, power outlets, security system, P.A system, fire alarm system and mechanical connections as shown on electrical drawings shall be removed by the electrical contractor and left on site for disposal.
 - b. Upon removal of the equipment, all associated material such as wiring, conduit and other hardware to be removed up to its nearest junction box located outside the firing range (including the Observation Area and Weapons Cleaning Area/Decontamination Room).
5. Mechanical Demolition
 - a. Removal of fans, filters and coils from the fresh air supply unit AHU-2.
 - b. Removal of the fresh air duct from the 2nd floor to the mechanical room basement level.
 - c. Heat recovery loop to be removed completely including coil, pump, valves and piping.
 - d. All piping, chilled water pump and hot water pump to be removed completely.
 - e. Ductwork as shown on mechanical drawings and diffusers to be removed completely including ceiling removals and wall openings.
 - f. Exhaust Fan EF-1-17 to be removed completely including all ductwork and exhaust air louver including louver in-fill. All control-related removal and programming.
 - g. Removal of sprinklers inside the firing range shooting area as shown on Figure 5. Other sprinkler demolition shall be dictated by the renovation work as discussed in the following section.

PREPARATION

1. Remove and wrap items to be salvaged or reused, and transport and store in area specified by the contractor. Any items to be removed must be decontaminated (i.e. HEPA vacuum, wet wipe, etc.).
2. Work Area:
 - a. Shut off and isolate HVAC system to prevent lead dust and particulate dispersal into other building areas.
 - b. Prior to beginning work, remove moveable objects (i.e. furniture) from the work area. If any moveable object is to remain in work area, indicate and specify required protection.
 - c. Cover floor surfaces in work area from wall to wall with FR polyethylene drop sheets to protect existing floor during removal.
 - d. Seal off openings, corridors, doorways, windows, skylights, ducts, grilles, and diffusers, with polyethylene sheeting sealed with tape.
 - e. Install negative pressure machine system and operate continuously from installation of polyethylene sheeting until completion of final cleanup. Provide automatic continuous monitoring and recording instrument of pressure difference.
 - f. 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.
 - g. At point of access to work area install warning signs in both official languages:
CAUTION LEAD HAZARD AREA
NO UNAUTHORIZED ENTRY
WEAR ASSIGNED PROTECTIVE EQUIPMENT AND RESPIRATOR
BREATHING LEAD CONTAMINATED DUST CAUSES SERIOUS BODILY HARM
 - h. Existing emergency and fire exits for the building shall be maintained during completion of the lead abatement and demolition work.
3. Worker Decontamination Enclosure System includes a Decontamination Room and Clean Room. The rooms in the decontamination facility must be arranged in sequence and constructed to prevent the spread of lead dust. The construction of these rooms must meet the requirements outlined in the *Ontario Guideline Lead on Construction Projects* (April 2011) herein referred to as the "Ontario Guideline" for Type 3a operations:
 - a. Decontamination Room is a room suitable for changing into protective clothing and for storing contaminated protective clothing and equipment. This room should be constructed between the Clean Room and work area. A shower room must be included.
 - b. Clean Room is a room suitable for changing into street clothes and storing clean clothing and equipment.
4. Prior to each shift in which the decontamination enclosure system is being used, the health and safety supervisor should inspect the system to ensure that there are no defects that would allow lead-containing dust to escape. Defects should be repaired before the system is used. The decontamination enclosure system should be maintained in a clean and sanitary condition.
5. Roy Consultants will be completing air quality testing during the lead abatement and demolition work outside the Clean Room(s) during demolition and lead abatement work.

QUALITY ASSURANCE

1. Regulatory requirements: comply with federal, provincial and local requirements pertaining to lead, in case of conflict among those requirements or with these specifications, the more stringent requirements applies. Comply with regulations in effect at time work is performed.
2. Health and Safety:
 - a. Required demolition and lead abatement work to comply with applicable occupational health and safety regulations, SOPs document and the Ontario Guideline.
 - b. Safety Requirements for worker protection, refer to applicable procedures outlined in the enclosed SOP document:
 - i. Personal Protective Equipment and clothing to be worn by workers in the work area. Refer to Procedure 2.0 Personal Protective Equipment in the enclosed SOPs document and the Ontario Guideline (Type 3a operations) for details.
 - ii. Remove street clothes in clean change room and put on respirator with new 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.
 - iii. 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 the 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. Refer to applicable sections of Procedure 3.0 Decontamination and General Hygiene in the enclosed SOPs document.
 - iv. 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 use this system as means to leave or enter Work Area.
 - v. Eating, drinking, chewing and smoking are not permitted in the work area.
 - vi. Ensure workers are fully protected with respirators and protective clothing during preparation of system of enclosures prior to commencing actual lead abatement.
 - vii. Ensure workers wash hands and face when leaving work area. Facilities for washing must be shown on a site plan and provided to Roy Consultants and Departmental Representative.
 - viii. Provide and post in clean change room and in equipment and access room the procedures described in this Section, the SOPs document and the Ontario Guideline.
 - ix. Provide all workers with training that covers WHMIS, hazards of lead (health effects and recognition of symptoms), personal hygiene, respirator requirements, work measures and procedures, use, cleaning and disposal of respirators and personal protective equipment.
 - x. Provide protective clothing and approved respirators to Authorized Visitors to work areas and instruct Authorized Visitors in use of protective clothing, respirators and procedures. Instruct Authorized Visitors in proper procedures to be followed in entering into and exiting from Work Area.

SCHEDULING

1. Not later than one week before beginning Work on this Project notify the following in writing;
 - a. Roy Consultants (Gina Burt and Robert Roy)
 - b. Departmental Representative
2. Hours of Work: All work shall be completed outside of standard operating hours which are Monday to Friday, 8:00 AM to 5:00 PM. The contractor will be required to submit a work schedule detailing length of work shifts, work days (i.e. after hours Monday to Friday, weekends, etc.). Note that Roy Consultants will complete air quality testing during the lead abatement and demolition work outside the clean room(s). The number of sampling events are contingent upon the

contractor's work schedule. The contractor is responsible to advise Roy Consultants of any changes to the work schedule.

EXECUTION

1. The health and safety supervisor must remain within the work area during disturbance, removal, or handling of lead-impacted materials.

WASTE MANAGEMENT AND DISPOSAL

1. Separate waste materials for recycling and disposal.
2. Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal regulations.
3. Handling and disposal of lead waste generated by removal activities must comply with applicable regulations and procedures outlined in Procedure No. 5 Waste Disposal and Procedure 14.0 Selection, Storage, and Disposal of Cleaning Equipment and Consumables of the enclosed SOPs document and the Ontario Guideline.
4. Sludge from sediment trap in Mechanical Room 061 to be removed by a licensed hazardous waste contractor.
5. Contractor to provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill.

LEAD ABATEMENT

1. Removal of lead impacted materials using power tools that are attached to dust-collecting vacuums with HEPA filters.
2. Materials to be cleaned by vacuums with HEPA filters and/or wet wipe all items prior to dismantling.
3. Impacted materials to be taken for disposal from work area as per contractor's specified procedures and Procedure 5.0 Waste Disposal of the enclosed SOPs document.
4. During removal of materials and cleaning, treat surfaces with Ledizolv.
5. In the firing range, floor drains to be cleaned by vacuums with HEPA filters and wet wiped.
6. Following cleaning, apply encapsulant to floor, walls and ceiling in the firing range. During the setting time (i.e. overnight if encapsulant applied at the end of a work shift), work area to not be disturbed. No entry, activity, or ventilation other than operation of negative air machine during this period.
7. After encapsulating surfaces, wet clean work area and equipment and access room. During settling period no entry, activity, or ventilation will be permitted.

INSPECTION

1. Perform inspection to confirm compliance with specification and regulatory requirements. Deviations in these requirements not approved in writing by Roy Consultants or Departmental Representative will result in work stoppage, at no cost to the client.
2. The contractor will inspect the work area for:
 - a. Adherence to specific procedures and materials.
 - b. Final cleanliness and completion.

- c. No additional costs will be allowed by the contractor for additional labour or materials required to provide specified performance level.
3. If lead dust leakage from the work area occurs, the contractor, Roy Consultants or Departmental Representative may order work area shutdown.
 - a. No additional costs will be allowed by the Contractor for additional labour or materials required to provide specified performance level.

LEAD SURFACE SWAB SAMPLING - WORK AREA

1. After the work area has passed a visual inspection for cleanliness approved by the contractor, and acceptable coat of sealant has been applied to surfaces within enclosure, and appropriate setting period has passed, Roy Consultants will perform lead swab sampling in the Work Area. It is anticipated that intermittent swabbing would be required during the lead abatement process to confirm 'clean' sections of the work area so that other subcontractors may proceed with work in these areas. Following the completion of all lead abatement work, a final swab sampling program will be completed of the entire work area.
2. Final lead wipe sampling results from horizontal and vertical surfaces must show lead levels of less than 40 micrograms of lead in dust per square foot (U.S. Department of Housing and Urban Development federal lead standards for dust lead hazard levels). Samples collected and analyzed at RPC Science and Engineering in Fredericton, NB, in accordance with EPA 200.8/EPA 200.7.
3. If swab sampling results show levels of lead dust 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.
4. Repeat steps 1 to 3 as necessary until lead dust levels are less than 40 micrograms per square foot.

FINAL CLEANUP

1. Final clean-up to proceed following specified cleaning procedures and when lead swab sampling results are below acceptable concentrations.
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.
3. Place polyethylene sheets, tape, cleaning material, clothing, and contaminated waste in plastic bags and sealed labelled waste containers for transport.
4. Clean up work area, equipment and access room, and other contaminated enclosures.
5. Remove sealed waste containers and equipment used in work area and remove from work area at appropriate time in cleaning sequence.
6. Conduct final check to ensure no dust or debris remain on surfaces as result of dismantling operations.

SUBMITTALS

1. Provide proof satisfactory to Roy Consultants and Departmental Representative that suitable arrangements have been made to dispose of lead-impacted materials in accordance with regulatory requirements.
2. Provide proof of Contractor's General and Environmental Liability Insurance.
3. Quality Control:

- a. Provide Roy Consultants and Departmental Representative with the necessary permits for transportation and disposal of lead impacted materials and proof it has been received and properly disposed.
 - b. Provide Roy Consultants and Departmental Representative that employees have instruction on the hazards of lead exposure, respirator use, dress, exit and entry from the work area, and aspects of work procedures and protective measures.
 - c. Provide proof that supervisory personnel have attended lead abatement course. There should be a minimum of one supervisor for every ten workers.
4. Product data: Provide documentation including test results, fire and flammability data, and Material Safety and Data Sheets (MSDS) for chemicals and materials including encapsulant, cleaning detergent (i.e. Ledizolv), etc.
5. Provide a proposed layout of decontamination enclosure system and layout and procedures for disposal of waste materials.
6. Provide proof of safety certification.
7. Provide name of person designated as Health and Safety Supervisor.
8. Submit valid copy of contractor's Worksafe NB coverage prior to commencement of work.
9. Provide a list of materials to be used during the lead abatement and demolition work.

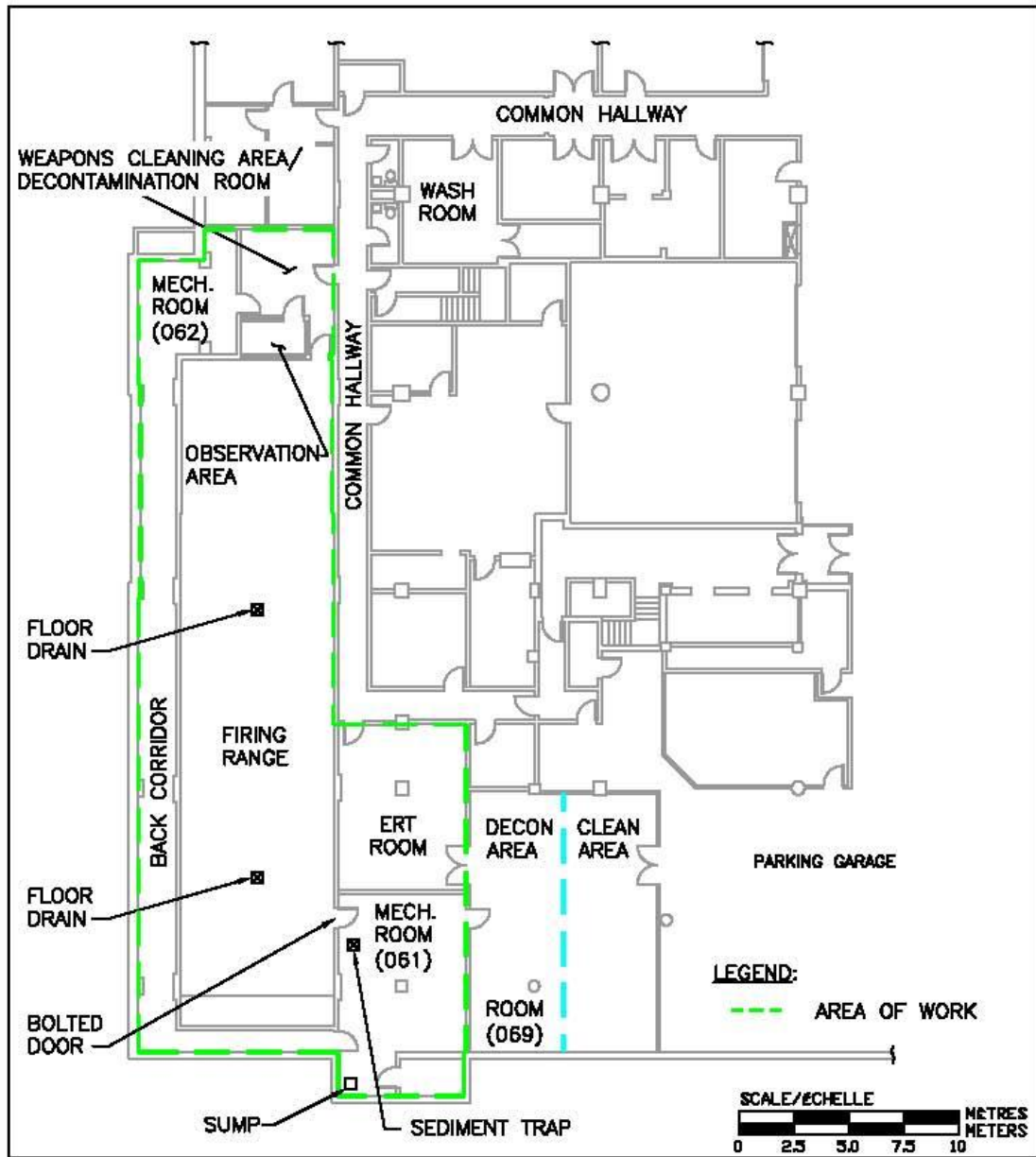


Figure 1: General Floor Plan of Work Area