



CONSTRUCTION ENVIRONMENTAL HEALTH & SAFETY EXHIBIT

DEMOLITION

I. General Requirements

- A. Demolition activities shall comply with the requirements of 29CFR Part 1926.850 through 1926.860, at a minimum.
- B. The General Contractor will be responsible for preparing a notification to the MassDEP for construction and/or demolition projects. This permit (BWP AQ06) has a 10-business day waiting period before construction and/or demolition can commence. The General Contractor shall incorporate this into his/her schedule.
- C. The employer's Competent Person shall ensure that all Employees involved in the demolition operation possess the knowledge and skill required to perform the duties for which they are assigned. In addition, a hazard analysis shall be completed prior to the demolition operation. The hazard analysis shall be reviewed with the work crews prior to the start of work, and where conditions change. Due to the nature of demolition activities the minimum required personal protective equipment as defined in the Personal Protective Equipment Exhibit may not be sufficient. Specific personal protective equipment required for demolition shall be identified in the hazard analysis including eye, face, head, hand, arm/body, hearing and respiratory protection as necessary based on the activity, equipment in use, body position, materials being demolished, etc.
- D. The General Contractor shall ensure that all employees and subcontractors have a minimum of two-hour Asbestos Awareness training should their work be around asbestos containing materials or presumed asbestos containing materials.
- E. Smoking is prohibited throughout demolition areas.
- F. Storage of flammable/combustible liquids and gases is prohibited in demolition areas.
- G. Accumulation of combustible materials and demolition debris is prohibited. At a minimum, the demolition area(s) shall be cleared of combustible materials/debris at least once daily at the end of the shift.
- H. All piping, pits, crawl spaces or other spaces that may contain flammable or combustible gases shall be purged prior to commencement of demolition activities (e.g. natural gas piping, oil/water separator pits, etc.).
- I. Fire protection measures, in compliance with 29CFR Part 1926.150(c), shall be maintained throughout the course of demolition. The General Contractor shall submit and execute a Project Specific NFPA 241 Plan.

II. Hazardous Materials Survey

- A. Prior to commencement of demolition activities, the Contractor shall ensure that a hazardous materials survey has been conducted. The Contractor shall request a copy of this document from the Owner. Hazardous materials include, but are not limited to the following: asbestos-containing materials, lead-containing materials, PCB-containing oils (transformers, light ballasts, etc.) and building materials, mercury-containing switches and light tubes (fluorescent light tubes), radioactive isotope-containing exit signs and door-closers, Halon (and similar) fire suppression systems, water-based fire suppression systems where the water is contaminated with cutting oils, CFC-containing refrigerants, grease-coated surfaces (kitchen hoods and ceilings), grease traps, floor sumps (oil contamination), oil transformers, containerized hazardous chemicals, paints, storage tanks, batteries, laboratory fume hoods and associated ductwork, and laboratory waste discharge lines and traps.
- B. All hazardous materials shall be removed prior to demolition in accordance with any regulatory plans or approvals. Typically, this work is contracted separately by the HUPM. The Contractor shall confer with the HUPM to confirm. Where hazardous materials cannot be removed prior to demolition (e.g. lead-coated surfaces), a plan shall be



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developed by the Contractor that details the procedures to be used for the safe handling and disposal of the material(s). This plan shall incorporate safe work practices and engineering controls when working with these materials. All hazardous materials that remain in the structure/demolition area during the demolition shall be clearly marked by the Contractor, signifying the presence of the hazard. This will be done to ensure that effective recognition and communication of the hazard takes place. The presence and location of existing or remaining hazardous materials (asbestos, lead-coated surfaces, etc.) shall be relayed to each employee during the project orientation process (should the material be asbestos, each employee shall be provided a minimum of a two-hour Asbestos Awareness class). In addition, each contractor whose employees may potentially be affected by the presence of these materials shall be forwarded a copy of the hazardous materials survey.

- C. A pre-demolition inspection of the structure/demolition area, specifically focused on hazardous materials, shall be conducted by the Contractor to ensure that the listed material(s) have been removed. In addition, the Contractor shall obtain written verification from the firm(s) or entity(s) responsible for oversight of the abatement/remediation activities confirming the removal of the listed material(s) as agreed to by the HUPM. Demolition cannot begin until this written verification is received by the Contractor and verified in the field. Refer to the Pre-Demolition Inspection Checklist and Section IV. below. The hazardous materials inspection by the Contractor may take place at the same time as the pre-demolition inspection, at the discretion of the General Contractor and Contractor performing the work.

III. Engineering Survey Report/Demolition Plan for Structural Demolition

- A. Prior to commencement of structural demolition (any portion of a space that supports or adds support to the structure) activities, an engineering survey shall be conducted by a Structural Engineer licensed to practice in the State where the work is being completed. A written report shall be generated by the Structural Engineer and submitted to the General Contractor upon completion. This report/plan must be received by the General Contractor at least two weeks in advance of the proposed demolition commencement date.
- B. The General Contractor must review this plan for thoroughness and accuracy, providing comments to the demolition Contractor and/or qualified person where appropriate.
- C. The engineering survey report/demolition plan must, at a minimum, address the following items and any other items deemed appropriate by the Structural Engineer for the specific demolition project:
 1. Building characteristics including construction type, structure size, number of stories, height, structural hazards or instabilities, basement, confined spaces, party wall locations, etc.;
 2. Adjacent structures that may be impacted by the demolition activities and required provisions for protecting those structures;
 3. Existing conditions/damage survey of adjacent structures/areas. Any abnormal conditions or existing damages shall be documented/photographed and included in the engineering survey report;
 4. Detailed description of the sequence of demolition that ensures structural stability throughout the entire demolition process, including identification of load bearing walls and elements;
 5. Temporary shoring and/or bracing procedures required during each phase of the demolition, including calculations;



CONSTRUCTION ENVIRONMENTAL HEALTH & SAFETY EXHIBIT

DEMOLITION

6. Maximum load-bearing capacities of the floors that will be loaded during the demolition operation. Calculations must be made to ensure that the maximum potential live load imposed on the floor(s) by the Contractor's mechanical equipment or the dead load imposed by accumulated debris does not exceed the capacity of the floor(s);
7. Public protection requirements including effective separation of the public from the demolition operation, re-routing of pedestrian or vehicular traffic, falling object protection, etc.;
8. Debris removal methods and restrictions (e.g. debris chutes, floor openings, etc.) including protection for such;
9. Dust suppression techniques to be employed during each phase of the demolition;
10. Fall protection requirements, means, and methods;
11. Employee access to demolition areas;
12. Existing utility identification, including cut and cap verification;
13. Identification and protection of utilities that must remain live or in service during the demolition operation. NOTE: Live utilities must be labeled in a manner that clearly identifies the status of the utility. This label must be of a type that will remain in place throughout the demolition operation (i.e. paper signs may not be appropriate);
14. Verification of abatement/removal of hazardous materials, as described in Section II.

IV. Pre-Demolition Walkthrough and Inspection

- A. Prior to commencement of demolition, or prior to commencement of each new phase of demolition, a pre-demolition walkthrough of the structure/demolition area shall be conducted.
- B. Required attendees for this walkthrough include the general contractor's Superintendent (or designee) responsible for the demolition, the Project Safety Manager, the demolition contractor's Competent Person, the Structural Engineer and Foreman (or Foremen), and the demolition contractor's Safety Representative. The owner or owner's representative may elect to attend this walkthrough.
- C. The Pre-Demolition Walkthrough shall be documented by a checklist, showing that each person listed above agrees that all procedures and requirements are satisfactorily met. Demolition will not proceed until this checklist is complete and agreed upon.

V. Reference

NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations 1926.850 (Subpart T), Demolition