

**SECTION 03315****CONCRETE/MASONRY REMOVAL****PART I GENERAL****1.1 SCOPE**

Dismantling of all above-grade concrete and masonry, including:

- A. Elevated floor and roof slabs.
- B. Cast-in-place walls.
- C. Pre-cast concrete components.
- D. Foundations, piers, and selected curbs.
- E. Concrete encasement (e.g., fireproofing).
- F. Interior and exterior masonry.
- G. Control of fugitive emissions.
- H. Windows, doors, roof louvers and lead.

**1.2 RELATED SECTIONS**

- A. Section 01120 - Debris/Waste Handling Criteria.
- B. Section 01515 – Mobilization, Demobilization, and General Site Requirements.
- C. Section 01517 – Removing/Fixing Radiological Contamination.
- D. Section 05126 – Structural Steel Dismantlement.
- E. Section 15067 – Ventilation and Containment.

**1.3 REFERENCE MATERIALS**

See the Invitation for Bid/Request for Proposal (IFB/RFP) Package for the following:

- A. Index of Drawings.
- B. Photographs,
- C. Drawings.
- D. Contractor Safe Work Plan Format Requirements.

**1.4 REFERENCES, CODES, AND STANDARDS**

All work shall be accomplished in accordance with the following reference, code, and standard requirements:

- A. American National Standards Institute (ANSI):
  - 1. ANSI A10.6-90 Safety Requirements for Demolition Operations.
  - 2. ANSI A10.8-88 Construction and Demolition Operations – Scaffolding – Safety Requirements.
  - 3. ANSI A10.9-83 Construction and Demolition Operations – Concrete and Masonry Work – Safety Requirements.

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- B. National Fire Protection Association (NFPA):
  - 1. NFPA 101A-98 Code for Safety to Life from Fire in Buildings and Structures.
  - 2. NFPA 241-93 Standard for Safeguarding Construction, Alteration, and Demolition Operations.
- C. DOE N441-1 Radiation Protection of the Public and the Environment.
- D. 10 CRF 835 Occupational Radiation Protection.
- E. Ohio Administrative Code (OAC): 3745-17-08 Restriction of Emission of Fugitive Dust.

**1.5 SUBMITTALS**

The Contractor shall submit for approval a Concrete/Masonry Removal Safe Work Plan in accordance with Part 7 of the IFB/RFP, Contractor Safe Work Plan Format Requirements, which contains the following information:

- A. Detailed method and sequence of dismantlement, including equipment to be used.
- B. Methods for control of contaminants, including control of fugitive emissions.
- C. Materials, such as non-woven geotextile fabrics and surfactants, to be used.
- D. Methods of cutting, including equipment to be used.
- E. Calculations. Verification of the structural adequacy of partially dismantled structures, as applicable, shall be stamped by a Professional Engineer registered in the State of Ohio.
- F. If dismantlement method requires personnel on the roof, the Contractor shall provide calculations verifying the structural adequacy of the roof to support personnel and equipment. A Professional Engineer registered in the State of Ohio shall stamp these calculations.
- G. If controlled explosive methods are proposed to be used on building structures that are constructed of precast columns and roof beams, a detailed Safe Work Plan containing the following information shall be prepared:
  - 1. Methods and materials to be used.
  - 2. Means to protect adjacent structures, equipment, material, and underground utilities from damage, including protection from projectiles.
  - 3. Methods and materials to control fugitive emissions.
  - 4. Contingency plan for detonation failure.
  - 5. Proof of permit, issued by the Bureau of Alcohol, Tobacco and Firearms, to use explosives.

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6. Methods and materials to store explosives according to the requirements of 29 CRF 55 Subpart K.
7. Evidence of previous work experience using controlled explosives to take down multi-story structures near other structures within the last 5 years. Provide project locations and contacts for verification.

### PART II PRODUCTS

#### 2.1 MATERIALS

- A. Non-woven Geotextile Fabric:
  1. Trevira Spunbond 1120 by Hoechst Celanese Corp.
  2. Mirafi 160N by Mirafi, Inc.
  3. ADS 600 by Advanced Drainage Systems, Inc.
  4. Equal products manufactured by others will be acceptable. Must be approved by FDF.
- B. Surfactants:
  1. CP-225 CHIL-SORB by Childers.
  2. FDF approved equal.
- C. Encapsulants/Sealants:
  1. CP-240 CHIL-LOCK by Childers.
  2. Certane 2050 by Certified Technologies.
  3. Eppco #1 by Expert Environmental Products.
  4. Serpiloc by International Protection Coatings Corp.
  5. FDF approved equal.

### PART III EXECUTIONS

#### 3.1 PREPARATION

- A. The Contractor shall ensure that adequate lay down space has been cleared and barriers have been established.
- B. The Contractor shall take the following precautions to control fugitive emissions. A wet dust suppression system shall be used. This system will utilize the following:
  1. Amended water (with surfactant).
  2. Finely atomized water spray.

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- C. Concrete and masonry shall have contamination fixed or removed prior to dismantlement and, if applicable, prior to removing local containment or building enclosure, in accordance with Section 01517.

**3.2 APPLICATION**

- A. The Contractor shall prevent damage to adjacent structures, materials, and equipment including underground utilities, during dismantlement activities. Activities to fell concrete structures outside their own footprint require prior approval. Activities to fell concrete structures shall maintain the integrity of porous surfaces to the extent practical to minimize dispersal of debris. If concrete dust is generated as a result of removal operations (due to crumbling, etc.), dust suppression techniques must be employed during demolition and, if necessary, during transportation.

- B. Removal of Above-Grade Concrete/Masonry:

Any above-grade concrete/masonry remaining intact following structural dismantlement shall be removed down to grade-level except for poured concrete structures that are imbedded in soil (e.g., raised slabs, curbs on slabs, foundations, concrete tank saddles), which shall remain in place.

- C. Removal of At-Grade Concrete/Masonry:

1. Concrete slabs, pedestals, columns, miscellaneous foundation piers, walls, and curbs shall be sealed and may remain intact during and after structural dismantlement.
2. Cut all reinforcing (e.g., rebar) and anchors flush with base slab for areas designed on the Civil Demolition Plan for potential debris stockpiling. For all other areas, reinforcements and anchors need only be cut down to within one inch of the base slab. Fill in damaged areas of base slab with patching grout as described in Section 01515.

- D. Cutting:

1. All material shall be reduced in size as required for containerization in accordance with Section 01120 and the Waste Management Plan (WMP) located in Part 6 of the IFB/RFP.
2. Embedded steel reinforcing is considered part of concrete. Reinforcing bar/mesh shall be cut to less than 1 ft. from concrete mass.
3. Because of contamination levels, some concrete may require local containment for cutting activities in accordance with Section 15067. Any currently known areas requiring local containment are identified in Part 6 of the IFB/RFP; however, new or additional areas may be identified during dismantlement activities.

- E. Explosives:

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1. Interior non-load bearing masonry walls shall be removed using non-explosive methods prior to opening the shell of the structure. For interior poured concrete walls, the Contractor shall have the option to leave them in place during structural dismantlement provided that facility release criteria are met prior to structural dismantlement and the method of dismantlement in the Concrete/Masonry Removal Safe Work Plan is approved by FDF personnel.
2. Any bituminous roofs felled by explosives are to be dropped in a single unit and impact the ground in a horizontal plane.

**3.3 SPECIAL INSTRUCTIONS**

The following special instructions apply to concrete/masonry removal:

**A. Doors, Windows, and Frames**

1. The Contractor shall remove all windows in one piece and place them in appropriate containers.
2. The Contractor shall remove all doors (wood and/or steel) and place them in appropriate containers.

**B. Lead Materials**

1. The Contractor shall segregate all lead materials (e.g., flashing, vent stacks, etc.) and place them in appropriate containers in accordance with Section 01120 and the WMP located in Part 6 of the IFB/RFP.
2. Prior to torch cutting on a surface coated with a lead-based paint, an eight-inch strip of paint shall be removed at the area of the cut (e.g., 4 inches on each side of cut).
3. The Contractor shall (whenever possible) dismantle lead flashing in a manner that will facilitate recycling. This will include minimizing inaccessible surfaces and maximizing straight lengths. This will also include avoiding the use of fixatives on the lead flashing that would require an abrasive method of removal.

**C. Wall and Roof Louvers**

The Contractor shall remove louvers and roof vents during exterior concrete/masonry removal and place in appropriate containers.

**END OF SECTION**