

# MANAGING THE DEMOLITION OF ABANDONED STRUCTURES

## IMPROVED PRACTICES FOR ENHANCED REVITALIZATION OPPORTUNITIES

### *Elements for improved residential demolition practices:*

- *Conduct pre-demolition inspections*
- *Remove asbestos containing materials*
- *Prevent fugitive dust*
- *Salvage and recycle as many materials as possible*
- *Use best practices for deconstruction*
- *Source better backfill*
- *Eliminate basements*
- *Install green infrastructure*
- *Use native or adapted seed mixes/plants*



### **CONCERNS ABOUT COMMON DEMOLITION PRACTICES**

In recent years, the number of vacant and dilapidated residences has increased dramatically. As a result, demolitions have become a common practice; however, many current demolition procedures are not ideal for long-term reuse of a site. Standard practices often over-compact soils and leave the vacant lot with impervious surfaces (drives, foundations, parking lots, etc.) that inhibit both storm water infiltration and plant growth. This imposes extra costs on the next developer, and limits future land use. Another common practice is to use building debris as fill material; this creates significant environmental liabilities, may create renovation issues, and places added burdens on future developers. Demolition practices also vary from site to site, which contributes to uncertainties in reuse planning and adds time and expenses to a redevelopment project.

### **EPA RESIDENTIAL DEMOLITION BID SPECIFICATION DEVELOPMENT TOOL**

To combat these issues and better prepare vacant lots for future reuse, EPA Region 5 has developed a Residential Demolition Bid Specification Development Tool that lists specific practices that should be incorporated into the demolition contracting process to achieve better environmental outcomes. The tool provides decision making information and bid specification language documents. The goal is to increase environmentally beneficial demolition practices, which in turn can result in long and short-term environmental benefits as well as set the state for vacant lot revitalization. Performing greener demolitions not only has environmental benefits, but also better prepares vacant lots for future reuse.

The tool appendix includes examples of bid specification language that would instruct contractors on technical requirements for a greener demolition project. By providing cities, counties, land banks, and other entities with this tool, these improved practices could be included in the demolition bid specification used in the contracting process. It also provides a common outline for each entity to follow to ensure consistent practices from place to place. The end result is better site conditions at the conclusion of the demolition process.

### **COMPLETE TOOL:**

<https://www.epa.gov/large-scale-residential-demolition/road-reuse-residential-demolition-bid-specification-development>



### ***Tool Elements***

**Pre-Demolition Survey**—The goal of the pre-demolition survey is to provide information to the contractor to conduct a complete and thorough inspection of all salvageable materials, non-hazardous wastes, and potential waste streams at the site.

**Waste Management Plan**—A waste management plan includes provisions for the inspection, sampling, removal, transportation, and disposal of previously identified materials of unknown composition that may be encountered during demolition. Develop the plan prior to commencing any work onsite.

**Salvage and Recycling**—Materials should be salvaged for subsequent sale or reuse and wastes should be recycled to the greatest extent possible. Communicate with salvage and recycling centers (some will not take materials with lead-based paint) and confirm that all hazardous materials are removed prior to recycling.

**Waste Handling and Disposal**—Assist the contractor in executing the waste management plan for all hazardous, special, and non-hazardous waste streams generated during demolition. It includes execution requirements for the handling and disposal of hazardous, special, and non-hazardous waste streams.

**Deconstruction**—Deconstruction practices should be incorporated into the residential demolition program to encourage building material salvage, reuse and recycling.

**Asbestos Compliance**—Asbestos should be inspected according to State and federal guidelines. Ensure that all residential demolitions follow general best practices and the National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulations for asbestos.

**Managing Fugitive Dust**—Prevent workers and members of the public from being exposed to fugitive dusts that may be generated during demolition activities by wetting down surfaces. Sources of hazardous fugitive dust include lead based paint and polychlorinated biphenyls (PCBs). Special protection should be used when handling hazardous dust.

**Impervious Surface Removal**—Contractors should use safe measures to remove asphalt, concrete slabs, and basement foundations while eliminating impediments to stormwater infiltration at the site. Excavations deeper than 5 feet in all types of earth must be protected from cave-in and collapse.

**Soils for Earthwork**—New materials brought to the site must help make the site usable for a wide variety of future uses. A Materials Source Report should be prepared by an environmental professional for all required subsoil, compost, and topsoil materials. This report must include location, volume, and current and historic uses of the fill source material to determine if any contamination is present.

**Placement of Fill**—Install fill for the greatest potential for plant growth and stormwater infiltration and percolation while preventing settling and consolidation. This work will also consist of incorporating compost within the root zone in order to improve soil quality and plant growth.

**Grading**—Establish grading practices appropriate for the installation of green infrastructure features in the final landscape plan for properties following demolition.

**Soil Stabilization and Seeding**—Install native vegetation that is well adapted to post-demolition fill conditions and provide sufficient cover so as to prevent erosion and sedimentation and improve the aesthetic qualities of the vacant property.