

Demolition Safety Program

Provided By:



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INTRODUCTION

This policy is designed to provide drivers, employees, and all other concerned parties with information regarding the policies and general practices of this company. Written information is provided herein. However, it is not the intent of the company to list all aspects of its programs, policies and or procedures within this policy. It is also understood that the information contained herein is subject to change at the discretion of the company. Additional policies and directives may be issued at any time.

It is the intent of this company to operate a Safe Workplace and in accordance with the regulations set forth by all applicable Regulatory Agencies. Nothing in this policy is designed to supersede these regulations.

All drivers are expected to operate drug-free, safely and courteously on the highways. Evidence that this requirement is not being honored will result in the immediate revocation of the safety clearance of the offending driver.

Demolition Safety Program



Construction personnel performing demolition work are exposed to many hazardous conditions and materials. Although a contractor may be concerned about employee safety, there should also be heightened awareness for the safety of the general public and the property of others.

Policy

All company employees, contractors and subcontractors must follow the requirements of this program during all demolition projects. This program outlines control measures contractors must implement as part of their existing program to plan for a successful and safe demolition project. Those supervising demolition activities should be familiar with the OSHA 29CFR1926, Subpart T, and all state and local requirements that apply to demolition work.

Demolition Safety Requirements

All contractors adhere to safe work practices. Before beginning any demolition work, an *Engineering Survey Report* is required. Once demolition work has started, there will be additional safety requirements for various activities. A *Competent Person* is required to conduct the Engineering Survey prior to beginning any demolition work. The purpose of the Engineering Survey is to thoroughly evaluate the project to identify potential hazards and develop controls to prevent accidents. Potential hazards include:

- Occupational Health Hazards.
- Cave-ins.
- Explosions.
- Premature Collapse.
- Fire.

Contractors must have **written evidence** that an Engineering Survey was conducted, and retain that report on-site.

For contractors that perform demolition work on an infrequent basis, it is recommended that a Safety Consultant's services be contracted for the demolition work.

All personnel involved in demolition work should be briefed on the ANSI A10.6. *Safety Requirements for Demolition*.

Engineering Survey Report



COMPANY NAME, or the client shall prepare specific documentation that records the Engineering Survey results. The Engineering Survey Report shall be signed and dated by the person conducting the survey. At a minimum, the Engineering Survey Report must include:

Building characteristics

- Construction type & structure size
- Number of stories or height
- Structural hazards
- Basements & confined spaces
- Party wall locations
- Wall tie requirements & number
- Shoring requirements for adjacent structures
- Type of shoring & location

Protection requirements for adjacent structures and demolition methods that will be used. Public protection is required.

- Pedestrian walkways or roadways that may need to be relocated.
- Walkways or roadways should be well lit & kept clear of equipment & debris.
- Sidewalk sheds may be necessary to protect pedestrians from overhead hazards.
- Special controls or procedures may be necessary if a portion of the structure is occupied.
- If the project is entirely protected with security fencing, the gates should be kept closed at all times throughout the demolition work.

Overhead & underground utility protection is required

- The location of all electric, gas, water, sewer & communications lines should be identified & the lines shut off before work is started.
- The National Association of Demolition Contractors recommends that utility lines be color-coded:
 1. Red, if the lines are to stay.
 2. Green, if the lines are to be removed.
- The local one-call system should be notified.

Above & Below-ground tanks should be protected

- Purging & testing of these tanks should be completed.
- Locations of pits or open holes should be identified and barricaded.



- EPA requirements must be identified & complied with.

If hazardous materials are found, responsibilities should be assigned to the appropriate contractor(s) for removal & disposal of the materials.

- Asbestos & other materials may be in furnaces, reactors, boilers, insulation, other fire protection materials, certain types of floors and ceiling tiles.
- Lead may be in pipe systems & with lead based paints.
- Polychlorinated biphenyls may be in electrical systems such as transformers & capacitors.

Existing damage to nearby structures

1. This damage should be documented. Photographs and/or videotape can be taken to supplement documentation.
2. The documentation should be dated & retained with the Engineering Survey Report.

Blasting. If the use of explosives is required for the demolition project, the Competent Person must be familiar with the OSHA standard 29CFR1926, Subpart U, blasting safety requirements

Safety Report

The Safety Report identifies and plans specific safe work procedures and practices and safety equipment that should be in place when demolition activities begin. The Safety Report should be tailored to the specific demolition job tasks being undertaken. The Safety Report can be included with the Engineering Survey Report.

Items that must be covered in the Safety Report include:

1. Confirmation that the Engineering Survey Report is read by jobsite supervisory personnel and reviewed by craft personnel.
2. Notification of medical personnel, fire department, utility companies & local authorities that their services are required for the demolition.
3. Posting of emergency telephone numbers for all these services at all telephone locations.
4. A comprehensive plan for confined space work and other identified hazards & exposures.
5. Appropriate personal protective equipment (PPE) is available on-site.
6. Securing the project site perimeter & posting of warning signs.



1. Fire can be a serious threat at demolition sites, potential sources of ignition should be identified.
2. The Fire Department must be able to gain access to any part of the jobsite, as well as fire hydrants.
3. Ample supplies of portable fire extinguishers must be available.
4. Restrict smoking, open flames and spark producing operations to specific, safe areas.
5. A fire warning system must be in place so that personnel can be quickly notified and evacuated in the event of a fire.

Work Progression

1. Except for cutting holes in the floors for chutes, holes to drop materials through, preparation of storage space & similar preparatory work, the demolition of floors and exterior walls shall begin at the top of the structure and proceed downward.
2. Each story of exterior wall & floor construction shall be removed & dropped into the storage space before commencing the removal of exterior walls & floors in the next story below.
3. Hazards to anyone from the fragmentation of glass shall be controlled.
4. Mechanical equipment shall not be used on floors on working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.
5. Employee entrances to multistory structures being demolished shall be protected by sidewalk sheds, canopies or both. Protection shall be provided from the face of the building for a minimum of eight (8) feet. All such canopies shall be at least two (2) feet wider than the building entrances or openings and shall be capable of sustaining a load of 150 psi.
6. Only those stairways, passageways & ladders designated as means of access to the structure shall be used. The designated means of access shall be indicated on the demolition plan. Other access ways shall be indicated as *Not Safe for Access* & closed at ALL times. The stairwell shall be covered at a point no less than two (2) floors below the floor on which work is being performed. Access to a floor where work is in progress shall be through a separate lighted, protected passageway.
7. During demolition, continuing documented inspections by a competent person shall detect hazards resulting from weakened or deteriorated floors, walls, or loosened material. NO employee shall be permitted to work where such hazards exist until they are corrected by shoring, bracing or other means.

Debris Removal

Any chute opening into which debris is dumped shall be protected by a guardrail 42 inches above the floor or other surface on which personnel stand to dump the



material. This also applies to any space between the chute & the edge of openings in the floors through which the debris will pass.

When the debris is dropped through openings in the floors without chutes, the openings and the area onto which the material is dropped shall be enclosed with barricades not less than 42 inches high and not less than six (6) feet back from the projected edge of the opening above.

1. Signs warning of the hazard of falling materials shall be posted at *EACH SIDE* of the debris opening at each floor.
2. Debris removal shall not be permitted in lower areas until debris handling ceases on the floors above.

All material chutes, and sections that are at an angle of more than 45 degrees from the horizontal shall be enclosed, except for openings equipped with closures at or about floor level for the insertion of materials.

1. The openings shall not exceed 48 inches in height measured along the wall of the chute.
2. Such openings, when not in use, shall be kept closed at all floors below the top floor.

A substantial gate shall be installed in each chute at or near the discharge end.

7.4.1 A competent employee shall be assigned to control the operation of the gate, and the backing & loading of trucks.

When operations are not in progress, the area surrounding the discharge end of a chute shall be closed.

Where material is dumped from mechanical equipment or wheelbarrows, a toeboard or bumper, not less than 4 inches thick and 6 inches high, shall be attached at each chute opening.

Chutes shall be designed & constructed of such strength as to eliminate failure due to impact of materials & debris loaded therein.

The storage of waste & debris on any floor shall not exceed the allowable floor load.

In buildings having wood floor construction, the floor joists may be removed from not more than one floor above grade to provide storage space for debris, provided falling material is not permitted to endanger the stability of the structure.



1. When wood floor beams serve to brace interior walls or free-standing exterior walls, such beams can be left in place until other support can be installed to replace them.
2. Floor arches, to an elevation of not more than 25 feet above grade, may be removed to provide storage area for debris provided such removal does not endanger the stability of the structure.
3. Storage space to which material is dumped shall be blocked off, except for openings for the removal of materials, and such openings shall be kept closed when material is not being removed.
4. Floor openings shall have curbs or stop-logs to prevent equipment from running over the edge.
5. Any opening cut in the floor for the disposal of materials shall be not longer than in size than 25% of the aggregate total floor area, unless lateral supports of the removed flooring remain in place. Floors weakened or otherwise made unsafe by demolition shall be shored to carry safely the intended imposed load for demolition.

Wall Removal

1. Masonry walls, or sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors.
2. No wall section which is more than ten feet in height shall be permitted to stand without lateral bracing, unless such wall was designed and constructed to stand without such lateral support and is in a condition safe enough to be self supporting.
3. No wall section shall be left standing without lateral bracing any longer than necessary for removal of adjacent debris interfering with demolition of the wall. Exception to this requirement will be allowed for such wall sections which are designed and constructed to stand without lateral support.
4. Employees are not be permitted to work on top of a wall when weather constitutes a hazard.
5. Structural or load supporting members on any floor will not be cut or removed until all stories above such a floor have been demolished and removed. This does not prohibit the cutting of floor beams for the disposal of materials or for the installation of equipment, providing floor joists removal is not more than one floor above grade to provide storage space for debris, provided falling material is not permitted to endanger the stability of the structure and the requirements for floor removal are met
6. Floor openings within ten feet of any wall being demolished shall be planked solid, except when employees are kept out of the area below.
7. In buildings of skeletal steel construction, the steel framing may be left in place during the demolition of masonry. Where this is done, all steel beams, girders and structural supports shall be cleared of all loose material as the masonry demolition progresses.



8. Walls which serve as retaining walls to support earth or adjoining structures shall not be demolished until such earth has been braced or adjoining structures have been underpinned.
9. Walls shall not be used to retain debris unless capable of safely supporting the imposed load.

Floor Removal

1. Openings cut in a floor shall extend the full span of the arch between supports. Before demolishing any floor arch, debris and other material shall be removed from such arch and other adjacent floor area.
2. Planks not less than two inches by ten inches in cross section, full sized undressed, shall be provided for and shall be used by employees to stand on while breaking down floor arches between beams. (OSHA scaffold grade planks are recommended). Planks shall be so located as to provide a safe support for personnel should the arch between the beams collapse.
3. Straddle space between planks shall not exceed sixteen (16) inches.
4. Safe walkways, not less than eighteen (18) inches wide, formed of wood planks not less than two (2) inches thick or of the equivalent strength, shall be provided and used by personnel when necessary to enable them to reach any point without walking upon exposed beams.
5. Stringers of sufficient strength shall support the flooring planks; the ends of such stringers shall be supported by floor beams or girders and **not** by floor arches alone.
6. Planks shall be laid together over solid bearings with the ends overlapping at least one foot.
7. When floor arches are being removed, employees shall not be allowed in the area directly underneath and that area shall be barricaded to prevent access and signed to warn of the hazards.

Steel Removal

When floor arches have been removed, planking shall be provided for the workers razing the steel framing. Steel construction shall be dismantled column-by-column and tier-by-tier (columns may be in two-story lengths). Any structural member being dismembered shall not be overstressed.

Mechanical Demolition

1. No person shall be permitted in any area which can be affected by demolition when balling or clamming is being performed. **ONLY** those persons necessary for the operations shall be permitted in this area at any other time.
2. The weight of the demolition ball shall not exceed 50% of the crane's rated load, based on the length of the boom and the maximum angle of operation at which



the demolition ball will be used, or it shall not exceed 25% of the nominal breaking strength of the line by which it is suspended, whichever is less.

3. The crane boom and load line shall be as short as possible.
4. The ball shall be attached to the loadline with a swivel connection to prevent twisting of the loadline and shall be attached by positive means so that the weight cannot accidentally disconnect.
5. When pulling over walls or portions of walls, all steel members affected shall have been cut free.
6. All roof cornices or other ornamental stonework shall be removed prior to pulling walls over.