

Town of Deerfield

Office of Codes Enforcement

6329 Walker Road. Deerfield, New York 13502
(315) 724-0413 TDD22
Randy Foley CEO/ZEO
Tracy Jubis, Town Clerk
www.townofdeerfield.org

DEMOLITION PERMIT APPLICATION

Date: _____ Zoning District: _____ Demolition Permit # _____
Address of
Demolition: _____

Tax Map # _____
Name of Owner: _____ Phone
#: _____
Address: _____
Name & # of Licensed contractor: _____
Address: _____ Phone #: _____
Insurance Certificate: _____
Type of Building to be demolished: Residential _____ commercial: _____
Industrial _____

Type of Material to be demolished:
Stone: _____ Bricks: _____ Septic Field: _____ Steel: _____ Oil Tank: _____
Concrete: _____ asbestos: _____ Cement Floor: _____ Glass: _____ Gas connection: _____
Blocks: _____ Septic Tank: _____ wood: _____ Macadam: _____ Electric Connection: _____
Other: _____

Asbestos abatement report attached. Yes _____ No _____
Licensed asbestos abatement contractor: _____ License
#: _____
Is structure within 50' of wetlands? Yes _____ NO _____
Demolition Permit will be good for 6 months without written authorization for extension.

Foundation void to be filled with clean fill. Site must be protected to prevent unauthorized entry daily. All C & D MATERIAL is to be removed from site. Site is to be restored to grading consistent with natural contours of property. Site is to be inspected by Building Inspector prior to and at completion of all work.

I _____ the applicant, do hereby certify that the above statements are true to my knowledge and belief and the proposed DEMOLITION does not violate any Zoning, State, or Local Law or regulation.

Signature of Applicant _____
Date: _____

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DEMOLITION PERMIT REQUIREMENT

1. Town of Deerfield Application Completed.
2. Current certificate of insurance (Home Owners, compensation)
3. A copy of asbestos material survey and inspection as required by New York State Labor Department
4. Notice of Electrical disconnect
5. Notice of Water and Sewer disconnect
6. Suitable barriers, fencing and warning signs must be utilized on site to prevent injury to the public, workers and adjacent properties..
7. If any toxic or hazardous materials are encountered, work must be stopped immediately and the proper authorities contacted.
8. All demolition debris must be contained and disposed of properly.
9. New York state department of Labor (OSHA Standard 1926.850(a)) must be followed.
10. Demolition must be completed and graded as to not create standing water of water discharge onto adjacent properties.
11. A Certificate of Compliance must be obtained when all is completed, no building is allowed on the property until a new building permit is applied for.

I, _____, as the owner/ contractor am requesting a demolition permit for _____

Do hereby state that I have received a copy of the United States Dept. of Labor, OSHA Engineering Survey requirements and Code Rule 56 on asbestos abatement, workers Comp. information, and Lead Paint Abatement, I have read and will comply with said requirements of supplied information by the Town of Paris to properly complete this project.

_____ signature _____ date



DAVID A. PATERSON
GOVERNOR

Home-owners law

STATE OF NEW YORK
WORKERS' COMPENSATION BOARD
20 PARK STREET
ALBANY, NY 12207



ZACHARY S. WEISS
CHAIR

December 1, 2008

To all Code Enforcement Officials, Building Departments, and Municipal Entities:

Effective January 18, 1999, Section 125 of the General Municipal Law requires that any individual applying for a building permit must prove to the building department that he/she is in compliance with the mandatory coverage provisions of the Workers' Compensation Law before the building permit is issued.

General Background

Under Section 57 of the Workers' Compensation Law, businesses listed as the general contractors on building permits are required to submit proof of compliance with the mandatory coverage provisions of the Workers' Compensation Law to the building department before a building permit is issued. Section 125 of the General Municipal Law is specifically targeted at ensuring that all applicants who list themselves as the general contractors on the building permit are in compliance with the mandatory coverage provisions of the Workers' Compensation Law.

For homeowner applicants, the instruction manual includes a link to form BP-1 Affidavit of Exemption to Show Specific Proof of Workers' Compensation Coverage for a 1, 2, 3 or 4 Family, Owner-occupied Residence. The law requires homeowners to provide proof of workers' compensation compliance when applying for a building permit. If the homeowner qualifies for an exemption, the homeowner must either complete this form and file it with the local building department; or the homeowner must complete Form CE-200 and file it with the local building department.

Implementing Section 125 of the General Municipal Law

1. General contractors and Business Owners
Businesses listed as the general contractors on building permits, must prove that they are in compliance with the mandatory coverage requirements and also Section 57 of the Workers' Compensation Law (WCL) by producing ONE of the following forms indicating that they are:
 - insured (Form C-105.2 or U-26.3 – the business's insurance carrier will send this form to the building department upon the business's request) All private carriers and their licensed insurance agents are authorized to issue the form C-105.2 as their Certificate of NYS Workers' Comp Insurance. The State Insurance Fund uses the U-26.3 form as its Certificate of NYS Workers' Compensation Insurance.
 - self-insured (Form SI-12 -- Certificate of Workers' Compensation Self-Insurance (the business calls the Board's Self-Insurance Office at 518-402-0247), **OR** Form GSI-105.2 -- Certificate of Participation in Workers' Compensation Group Self-Insurance) (the business's Group Self-Insurance Administrator will send this form to the government entity upon request).
 - exempt (Form CE-200 – {Form CE-200 is available on the Board's website, www.wcb.state.ny.us, under the heading "Forms." Paper applications for this form are available by writing or visiting any Customer Service Center at any District Office of the Workers' Compensation Board.}

Any residence that is not a 1, 2, 3, or 4 Family, Owner-occupied Residence is considered a business (income or potential income property) and must prove compliance by filing one of the above forms. (Please note: ACORD forms are **NOT** acceptable proof of workers' compensation coverage!)



New York State Department of Labor
Eliot Spitzer, Governor
M. Patricia Smith, Commissioner

OCTOBER, 2007

NOTICE TO BUILDING PERMIT APPLICANTS

An asbestos survey is required for all renovation, remodeling, repair and demolition of all interior and exterior building materials.

As per NYS Industrial Code Rule 56, asbestos material must be abated by licensed contractors utilizing certified asbestos handlers, with the exception of owner-occupied single family homes, where the owner may remove the asbestos and renovate these structures themselves. However, it is not recommended that the owner perform abatement, as the owner could potentially expose themselves, their family and neighbors to asbestos fibers if adequate engineering controls and work methods are not utilized during the abatement. For further information and updates, please see the NYS website at: www.labor.state.ny.us

ONEIDA-HERKIMER SOLID WASTE AUTHORITY

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MEMORANDUM

TO: Solid Waste Haulers and Demolition Contractors
FROM: William A. Rabbia, Executive Director *WAR*
DATE: December 22, 2009
RE: Fire Damaged Buildings/Structures – Disposal Information

There has been an increase in inquires regarding the proper handling and disposal of debris and material resulting from fire damaged buildings/structures.

The New York State Department of Labor (DOL) regulates the handling, removal and loading of asbestos and asbestos-containing material. The New York State Department of Environmental Conservation (DEC) regulates the transportation and disposal of asbestos-containing material.

In accordance with NYS DOL Code Rule 56, Subpart 5 [CR 56-5.1 (c)], a building/structure that is certified to be unsound or slated for contracted demolition, the building/structure shall be assumed to contain asbestos, and shall be demolished and removed in accordance with DOL CR 56 guidelines, unless the building/structure is adequately certified to be free of asbestos containing material. Acceptable documentation for certification shall be a previous thorough building/structure asbestos survey, abatement records or other documentation acceptable to the NYS DOL.

As there are some exemptions to the asbestos survey requirements, I have attached a copy of NYS DOL CR 56-5 for your reference. To obtain a complete copy of CR 56, or if you have any questions regarding CR 56, please contact the NYS DOL at (315)479-3215 or visit their web site at: www.labor.state.ny.us.

Material from non-surveyed/non-abated demolitions must be transported directly to the Oneida-Herkimer Solid Waste Authority Regional Landfill in Ava by a Part 364 permitted waste transporter. **This material will not be accepted at Authority transfer stations. Only 6NYCRR Part 364 permitted waste transporters may deliver asbestos and asbestos-containing material to the Regional Landfill in Ava.** A twenty-four (24) hour notice is required for the disposal of friable asbestos to allow for mandatory site preparation. Material containing asbestos must be delivered in roll-off containers or dump trailers. No walking floor trailers with material containing asbestos will be accepted at the Regional Landfill in Ava. All material containing asbestos must be accompanied with a proper non-hazardous waste manifest form.

If you have any questions, please feel free to contact our office at 733-1224.

Enclosure

SUBPART 56-5

PHASE IA: ASBESTOS SURVEY PLANNING AND DESIGN

56-5.1 Asbestos Survey Requirements for Building/Structure Demolition, Renovation, Remodeling and Repair

- (a) **Asbestos Survey Required.** An owner or an owner's agent, except the owner of one and two-family dwellings who contracts for, but does not direct or control the work, shall cause to be conducted, an asbestos survey completed by a licensed asbestos contractor using inspectors certified in compliance with Section 56-3.2(d), to determine whether or not the building or structure, or portion(s) thereof to be demolished, renovated, remodeled, or have repair work, contains ACM, PACM or asbestos material. This asbestos survey shall be completed and submitted as indicated in Subdivision (g) of this Section, prior to commencing work. All such asbestos surveys shall be conducted in conformance with the requirements of Subdivision (e) of this Section.
- (b) **Exemptions To Asbestos Survey Requirements:** The asbestos survey required by this Subdivision (a) of this Section shall not be required for the following classes of buildings or structures:
- (1) an agricultural building;
 - (2) buildings or structures for which original construction commenced on or after January 1, 1974;
 - (3) A structure certified in writing to be structurally unsound by a licensed Professional Engineer, Registered Architect, Building Inspector, Fire Inspector or other official of competent jurisdiction. (See Section 56-11.5)
- (c) **Building/Structure Demolition.** If a building/structure asbestos survey is not required or performed per Subdivision (b) of this Section, and the building/structure is certified to be unsound or slated for contracted demolition, the building/structure shall be assumed to contain asbestos, and shall be demolished per this Part, unless the building/structure is adequately certified to be free of asbestos containing material. Acceptable documentation for certification shall be a previous thorough building/structure asbestos survey, abatement records or other documentation acceptable to the Commissioner or his or her representative.
- (d) **Responsibility To Comply.** No exemption to the requirement to conduct an asbestos survey shall exempt any person, asbestos contractor, property owner or business entity from the inspection or asbestos survey requirements of EPA, OSHA, and any other applicable section of this Part.



Demolition

Construction Safety and Health Outreach Program

U.S. Department of Labor
OSHA Office of Training and Education
May 1996

PREPARATORY OPERATIONS

Before the start of every demolition job, the demolition contractor should take a number of steps to safeguard the health and safety of workers at the job site. These preparatory operations involve the overall planning of the demolition job, including the methods to be used to bring the structure down, the equipment necessary to do the job, and the measures to be taken to perform the work safely. Planning for a demolition job is as important as actually doing the work. Therefore all planning work should be performed by a competent person experienced in all phases of the demolition work to be performed.

The American National Standards Institute (ANSI) in its ANSI A10.6-1983 - *Safety*

Requirements For Demolition Operations states:

"No employee shall be permitted in any area that can be adversely affected when demolition operations are being performed. Only those employees necessary for the performance of the operations shall be permitted in these areas."

Engineering Survey

Prior to starting all demolition operations, OSHA Standard 1926.850(a) requires that an engineering survey of the structure must be conducted by a competent person. The purpose of this survey is to determine the condition of the framing, floors, and walls so that measures can be taken, if necessary, to prevent the premature collapse of any portion of the structure. When indicated as advisable, any adjacent structure(s) or improvements should also be similarly checked. The demolition contractor must maintain a written copy of this survey. Photographing existing damage in neighboring structures is also advisable.

The engineering survey provides the demolition contractor with the opportunity to evaluate the job in its entirety. The contractor should plan for the wrecking of the structure, the equipment to do the work, manpower requirements, and the protection of the public. The safety of all workers on the job site should be a prime consideration. During the preparation of the engineering survey, the contractor should plan for potential hazards such as fires, cave-ins, and injuries.

If the structure to be demolished has been damaged by fire, flood, explosion, or some other cause, appropriate measures, including bracing and shoring of walls and floors, shall be taken to protect workers and any adjacent structures. It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable material, or similar dangerous substances have been used or stored on the site. If the nature of a substance cannot be easily determined, samples should be taken and analyzed by a qualified person prior to demolition.

During the planning stage of the job, all safety equipment needs should be determined. The required number and type of respirators, lifelines, warning signs, safety nets, special face and eye protection, hearing protection, and other worker protection devices should be determined during the preparation of the engineering survey. A comprehensive plan is necessary for any confined space entry.

Utility Location

One of the most important elements of the pre-job planning is the location of all utility services. All electric, gas, water, steam, sewer, and other services lines should be shut off, capped, or otherwise controlled, at or outside the building before demolition work is started. In each case, any utility company which is involved should be notified in advance, and its approval or services, if necessary, shall be obtained.

If it is necessary to maintain any power, water, or other utilities during demolition, such lines shall be temporarily relocated as necessary and/or protected. The location of all overhead power sources should also be determined, as they can prove especially hazardous during any machine demolition. All workers should be informed of the location of any existing or relocated utility service.

Medical Services and First Aid

Prior to starting work, provisions should be made for prompt medical attention in case of serious injury. The nearest hospital, infirmary, clinic, or physician shall be located as part of the engineering survey. The job supervisor should be provided with instructions for the most direct route to these facilities. Proper equipment for prompt transportation of an injured worker, as well as a communication system to contact any necessary ambulance service, must be available at the job site. The telephone numbers of the hospitals, physicians, or ambulances shall be conspicuously posted.

In the absence of an infirmary, clinic, hospital, or physician that is reasonably accessible in terms of time and distance to the worksite, a person who has a valid certificate in first aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training should be available at the worksite to render first aid.

A properly stocked first aid kit as determined by an occupational physician, must be available at the job site. The first aid kit should contain approved supplies in a weatherproof container with individual sealed packages for each type of item. It should also include rubber gloves to prevent the transfer of infectious diseases. Provisions should also be made to provide for quick drenching or flushing of the eyes should any person be working around corrosive materials. Eye flushing must be done with water containing no

additives. The contents of the kit shall be checked before being sent out on each job and at least weekly to ensure the expended items are replaced.

Police and Fire Contact

The telephone numbers of the local police, ambulance, and fire departments should be available at each job site. This information can prove useful to the job supervisor in the event of any traffic problems, such as the movement of equipment to the job, uncontrolled fires, or other police/fire matters. The police number may also be used to report any vandalism, unlawful entry to the job site, or accidents requiring police assistance.

Fire Prevention and Protection

A "fire plan" should be set up prior to beginning a demolition job. This plan should outline the assignments of key personnel in the event of a fire and provide an evacuation plan for workers on the site.

Common sense should be the general rule in all fire prevention planning:

- All potential sources of ignition should be evaluated and the necessary corrective measures taken.
- Electrical wiring and equipment for providing light, heat, or power should be installed by a competent person and inspected regularly.
- Equipment powered by an internal combustion engine should be located so that the exhausts discharge well away from combustible materials and away from workers.
- When the exhausts are piped outside the building, a clearance of at least six inches should be maintained between such piping and combustible material.
- All internal combustion equipment should be shut down prior to refueling. Fuel for this equipment should be stored in a safe location.
- Sufficient fire fighting equipment should be located near any flammable or combustible liquid storage area.
- Only approved containers and portable tanks should be used for the storage and handling of flammable and combustible liquids.

Heating devices should be situated so they are not likely to overturn and shall be installed in accordance with their listing, including clearance to combustible material or equipment. Temporary heating equipment, when utilized, should be maintained by competent personnel.

Smoking should be prohibited at or in the vicinity of hazardous operations or materials. Where smoking is permitted, safe receptacles shall be provided for smoking materials.

Roadways between and around combustible storage piles should be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other materials.

When storing debris or combustible material inside a structure, such storage shall not obstruct or adversely affect the means of exit.

A suitable location at the job site should be designated and provided with plans, emergency information, and equipment, as needed. Access for heavy fire fighting equipment should be provided on the immediate job site at the start of the job and maintained until the job is completed.

Free access from the street to fire hydrants and to outside connections for standpipes, sprinklers, or other fire extinguishing equipment, whether permanent or temporary, should be provided and maintained at all times.

- Pedestrian walkways should not be so constructed as to impede access to hydrants.
- No material or construction should interfere with access to hydrants, siamese connections, or fire extinguishing equipment.

A temporary or permanent water supply of sufficient volume, duration, and pressure, required to properly operate the fire fighting equipment, should be made available.

Standpipes with outlets should be provided on large multistory buildings to provide for fire protection on upper levels. If the water pressure is insufficient, a pump should also be provided.

An ample number of fully charged portable fire extinguishers should be provided throughout the operation. All motor driven mobile equipment should be equipped with an approved fire extinguisher.

An alarm system, e.g., telephone system, siren, two-radio, etc., shall be established in such a way that employees on the site and the local fire department can be alerted in case of an emergency. The alarm code and reporting instructions shall be conspicuously posted and the alarm system should be serviceable at the job-site during the demolition. Fire cut offs shall be retained in the buildings undergoing alterations or demolition until operations necessitate their removal.

SPECIAL STRUCTURES DEMOLITION

Safe Work Practices When Demolishing a Chimney, Stack, Silo, or Cooling Tower

Inspection and Planning

When preparing to demolish any chimney, stack, silo, or cooling tower, the first step must be a careful, detailed inspection of the structure by an experienced person. If possible, architectural/engineering drawings should be consulted. Particular attention should be paid to the condition of the chimney or stack. Workers should be on the lookout for any structural defects such as weak or acid-laden mortar joints, and any cracks or openings. The interior brickwork in some sections of industrial chimney shafts can be extremely weak. If the stack has been banded with steel straps, these bands shall be removed only as the work progresses from the top down. Sectioning of the chimney by water, etc. should be considered.

Safe Work Practice

When hand demolition is required, it should be carried out from a working platform.

- Experienced personnel must install a self-supporting tubular scaffold, suspended platform, or knee-braced scaffolding around

the chimney.

- Particular attention should be paid to the design, support, and tie-in (braces) of the scaffold.
- A competent person should be present at all times during the erection of the scaffold.
- It is essential that there be adequate working clearance between the chimney and the work platform.
- Access to the top of the scaffold should be provided by means of portable walkways.
- The platforms should be decked solid and the area from the work platform to wall bridged with a minimum of 2-inch thick lumber.
- A back rail 42 inches above the platform with a midrail covered with canvas or mesh should be installed around the perimeter of the platform to prevent injury to workers below. Debris netting may be installed below the work platform.
- Excess canvas or plywood attachments can form a wind sail that could cause collapse of the scaffold.
- When working on the work platform, all personnel should wear hard hats, long sleeve shirts, eye/face protection, such as goggles and face shields, respirators and safety belts, as required.
- Care should be taken that the proper number of workers are assigned to the task.
- Too many people on a small work platform can lead to accidents.

An alternative to the erection of a self-supporting tubular steel scaffold is to "climb" the structure with a creeping bracket scaffold. Careful inspection of the masonry and a decision as to the safety of this alternative must be made by a competent person. It is essential that the masonry of the chimney be in good enough condition to support the bracket scaffold.

The area around the chimney should be roped off or barricaded and secured with appropriate warning signs posted. No unauthorized entry should be permitted to this area. It's also good practice to keep a worker, i.e. a supervisor, operating engineer, another worker, or a "safety person", on the ground with a form of communication to the workers above.

Special attention should be paid to weather conditions when working on a chimney. No work should be done during inclement weather such as during lightning or high wind situations. The worksite should be wetted down, as needed, to control dust.

Debris Clearance

If debris is dropped inside the shaft, it can be removed through an opening in the chimney at grade level.

- The opening at grade must be kept relatively small in order not to weaken the structure.
- If a larger opening is desired, a professional engineer should be consulted.
- When removing debris by hand, an overhead canopy of adequate strength should be provided.
- If machines are used for removal of debris, proper overhead protection for the operator should be used.
- Excessive debris should not be allowed to accumulate inside or outside the shaft of the chimney as the excess weight of the debris can impose pressure on the wall of the structure and might cause the shaft to collapse.
- The foreman should determine when debris is to be removed, halt all demolition during debris removal, and make sure the area is clear of clean-up workers before continuing demolition.

Demolition by Deliberate Collapse

Another method of demolishing a chimney or stack is by deliberate collapse. Deliberate collapse requires extensive planning and experienced personnel, and should be used only when conditions are favorable.

There must be a clear space for the fall of the structure of at least 45 degrees on each side of the intended fall line and 1½ times the total height of the chimney. Considerable vibration may be set up when the chimney falls, so there should be no sewers or underground services on the line of the fall. Lookouts must be posted on the site and warning signals must be arranged. The public and other workers at the job site must be kept well back from the fall area.

The use of explosives is one way of setting off deliberate collapse. *This type of demolition should only be undertaken by qualified persons.* The entire work area shall be cleared of nonessential personnel before any explosives are placed. Though the use of explosives is a convenient method of bringing down a chimney or stack, there is a considerable amount of vibration produced, and caution should be taken if there is any likelihood of damage.

Demolition of Pre-Stressed Concrete Structures

The different forms of construction used in a number of more or less conventional structures built during the last few decades will give rise to a variety of problems when the time comes for them to be demolished. Pre-stressed concrete structures fall in this general category. The most important aspect of demolishing a pre-stressed concrete structure takes place during the engineering survey. During the survey, a qualified person should determine if the structure to be demolished contains any pre-stressed members.

It is the responsibility of the demolition contractor to inform all workers on the demolition job site of the presence of pre-stressed concrete members within the structure. They should also instruct them in the safe work practice which must be followed to safely perform the demolition. Workers should be informed of the hazards of deviating from the prescribed procedures and the importance of following their supervisor's instruction.

Table 11-1. Categories of Pre-Stressed Construction

There are four main categories of pre-stressed members. The category, or categories, should be determined before attempting demolition, bearing in mind that any pre-stressed structure may contain elements of more than one category.

- **Category 1.** Members pre-stressed before the application of the superimposed loads and having all cables or tendons fully bonded to the concrete or grouted within ducts.
- **Category 2.** As Category 1, but having the tendons left ungrouted. This type of construction can sometimes be recognized from the access points which may have been provided for inspection of the cables and anchors. More recently, unbonded tendons have been used in the construction of beams, slabs, and other member; these tendons are protected by grease and surrounded by plastic sheathing, instead

of the usual metal duct.

- **Category 3.** Members that are pre-stressed progressively as the building construction proceeds and the dead load increases, using bonded tendons, as category 1.

- **Category 4.** As category 3, but using unbonded tendons, as Category 2.

Examples of construction using members of Categories 3 or 4 are relatively rare up to this time. However, they may be found, for example, in the podium of a tall building or some types of bridges. They require that particular care be taken in demolition.

Pre-tensioned Members

These usually do not have any end anchors, the wires being embedded or bonded within the length of the member. Simple pre-tensioned beams and slabs of spans up to about 7 meters (23') can be demolished in a manner similar to ordinary reinforced concrete. Pre-tensioned beams and slabs may be lifted and lowered to the ground as complete units after the removal of any composite concrete covering to tops and ends of the units. To facilitate breaking up, the members should be turned on their sides. Lifting from the structure should generally be done from points near the ends of the units or from lifting point positions. Reuse of lifting eyes, if in good condition, is recommended whenever possible. When units are too large to be removed, consideration should be given to temporary supporting arrangements.

Pre-Cast Units Stressed Separately From the Main Frames of the Structure, with End Anchors and Grouted and UngROUTED Ducts.

Before breaking up, units of this type should be lowered to the ground, if possible. It is advisable to seek the counsel of a professional engineer before carrying out this work, especially where there are ungrouted tendons. In general, this is true because grouting is not always 100 percent efficient. After lowering, the units can be turned on their side with the ends up on blocks after any composite concrete is removed. This may suffice to break the unit and release the pre-stress; if not, a sand bag screen, timbers, or a blast mat as a screen should be erected around the ends and demolition commenced, taking care to clear the area of any personnel. It should be borne in mind that the end blocks may be heavily reinforced and difficult to break up.

Monolithic Structures

The advice of the professional engineer experienced in pre-stressed work should be sought before any attempt is made to expose the tendons or anchorages of structures in which two or more members have been stressed together. It will usually be necessary for temporary supports to be provided so the tendons and the anchorage can be cautiously exposed. In these circumstances it is essential that indiscriminate attempts to expose and de-stress the tendons and anchorages are not made.

Progressively Pre-Stressed Structures

In the case of progressively pre-stressed structures, it is essential to obtain the advice of a professional engineer, and to demolish the structure in strict accordance with the engineer's method of demolition. The stored energy in this type of structure is large. In some cases, the inherent properties of the stressed section may delay failure for some time, but the presence of these large pre-stressing forces may cause sudden and complete collapse with little warning.

Safe Work Practices When Working in Confined Spaces

Demolition contractors often come in contact with confined spaces when demolishing structure at industrial sites. These confined spaces can be generally categorized in two major groups: those with open tops and a depth that restricts the natural movement of air, and enclosed spaces with very limited openings for entry. Examples of these spaces include storage tanks, vessels, degreasers, pits vaults, casing, and silos.

The hazards encountered when entering and working in confined spaces are capable of causing bodily injury, illness, and death. Accidents occur among workers because of failure to recognize that a confined space is a potential hazard. It should therefore be considered that the most unfavorable situation exists in every case and that the danger of explosion, poisoning, and asphyxiation will be present at the onset of entry.

SAFE BLASTING PROCEDURES

General Safe Work Practices

Blasting Survey and Site Preparation

Prior to the blasting of any structure or portion thereof, a complete written survey must be made by a qualified person of all adjacent improvements and underground utilities. When there is a possibility of excessive vibration due to blasting operations, seismic or vibration tests should be taken to determine proper safety limits to prevent damage to adjacent or nearby buildings, utilities, or other property.

The preparation of a structure for demolition by explosives may require the removal of structural columns, beams or other building components. This work should be directed by a structural engineer or a competent person qualified to direct the removal of these structural elements. Extreme caution must be taken during this preparatory work to prevent the weakening and premature collapse of the structure.

The use of explosives to demolish smokestacks, silos, cooling towers, or similar structures should only be permitted if there is a minimum of 90 degrees of open space extended for at least 150% of the height of the structure or if the explosives specialist can demonstrate consistent previous performance with tighter constraints at the site.

Fire Precautions

The presence of fire near explosives presents a severe danger. Every effort should be made to ensure that fires or sparks do not occur near explosive materials. Smoking, matches, firearms, open flame lamps, and other fires, flame, or heat-producing devices must be prohibited in or near explosive magazines or in areas where explosives are being handled, transported, or used. In fact, persons working near explosives should not even carry matches, lighters, or other sources of sparks or flame. Open fires or flames should be prohibited within 100 feet of any explosive materials. In the event of a fire which is in imminent danger of contact with explosives, all employees must be removed to a safe area.

Electrical detonators can be inadvertently triggered by stray RF (radio frequency) signals from two-way radios. RF signal sources should be restricted from or near to the demolition site, if electrical detonators are used.

Personnel Selection

A blaster is a competent person who uses explosives. A blaster must be qualified by reason of training, knowledge, or experience in the field of transporting, storing, handling, and using explosives. In addition, the blaster should have a working knowledge of state and local regulations which pertain to explosives. Training courses are often available from manufacturers of explosives and blasting safety manuals are offered by the Institute of Makers of Explosives (IME) as well as other organizations.

Blasters shall be required to furnish satisfactory evidence of competency in handling explosives and in safely performing the type of blasting required. A competent person should always be in charge of explosives and should be held responsible for enforcing all recommended safety precautions in connection with them.

Transportation of Explosives

Vehicular Safety

Vehicles used for transporting explosives shall be strong enough to carry the load without difficulty, and shall be in good mechanical condition. All vehicles used for the transportation of explosives shall have tight floors, and any exposed spark-producing metal on the inside of the body shall be covered with wood or some other non-sparking material. Vehicles or conveyances transporting explosives shall only be driven by, and shall be under the supervision of, a licensed driver familiar with the local, state, and Federal regulations governing the transportation of explosives. No passengers should be allowed in any vehicle transporting explosives.

Explosives, blasting agents, and blasting supplies shall not be transported with other materials or cargoes. Blasting caps shall not be transported with other materials or cargoes. Blasting caps shall not be transported in the same vehicle with other explosives. If an open-bodied truck is used, the entire load should be completely covered with a fire and water-resistant tarpaulin to protect it from the elements. Vehicles carrying explosives should not be loaded beyond the manufacturer's safe capacity rating, and in no case should the explosives be piled higher than the closed sides and ends of the body.

Every motor vehicle or conveyance used for transporting explosives shall be marked or placarded with warning signs required by OSHA and the DOT.

Each vehicle used for transportation of explosives shall be equipped minimally with at least a 10 pound rated serviceable ABC fire extinguisher. All drivers should be trained in the use of the extinguishers on their vehicle.

In transporting explosives, congested traffic and high density population areas should be avoided, where possible, and no unnecessary stops should be made. Vehicles carrying explosives, blasting agents, or blasting supplies shall not be taken inside a garage or shop for repairs or servicing. No motor vehicle transporting explosives shall be left unattended.

Storage of Explosives

Inventory Handling and Safe Handling

All explosives must be accounted for at all times and all not being used must be kept in a locked magazine. A complete detailed inventory of all explosives received and placed in, removed from, and returned to the magazine should be maintained at all times. Appropriate authorities must be notified of any loss, theft, or unauthorized entry into a magazine.

Manufacturers' instructions for the safe handling and storage of explosives are ordinarily enclosed in each case of explosives. The specifics of storage and handling are best referred to these instructions and the aforementioned IME manuals. They should be carefully followed. Packages of explosives should not be handled roughly. Sparking metal tools should not be used to open wooden cases. Metallic slitters may be used for opening fiberboard cases, provided the metallic slitter does not come in contact with the metallic fasteners of the case.

The oldest stock should always be used first to minimize the chance of deterioration from long storage. Loose explosives or broken, defective, or leaking packages can be hazardous and should be segregated and properly disposed of in accordance with the specific instructions of the manufacturer. If the explosives are in good condition it may be advisable to repack them. In this case, the explosives supplier should be contacted. Explosives cases should not be opened or explosives packed or repacked while in a magazine.

Storage Conditions

Providing a dry, well-ventilated place for the storage of explosives is one of the most important and effective safety measures. Exposure to weather damages most kinds of explosives, especially dynamite and caps. Every precaution should be taken to keep them dry and relatively cool. Dampness or excess humidity may be the cause of misfires resulting in injury or loss of life. Explosives should be stored in properly constructed fire and bullet-resistant structures, located according to the IME American Table of Distances and kept locked at all times except when opened for use by an authorized person. Explosives should not be left, kept, or stored where children, unauthorized persons, or animals have access to them, nor should they be stored in or near a residence.

Detonators should be stored in a separate magazine located according to the IME American Table of Distances.

**DETONATORS SHOULD NEVER BE
STORED IN THE SAME MAGAZINE
WITH ANY OTHER KIND OF EXPLOSIVES.**

Ideally, arrangements should be made whereby the supplier delivers the explosives to the job site in quantities which will be used up during the work day. An alternative would be for the supplier to return to pick up unused quantities of explosives. If it is necessary for the contractor to store his explosives, he should be familiar with all local requirements for such storage.

Proper Use of Explosives

Blasting operations shall be conducted between sunup and sundown, whenever possible. Adequate signs should be sounded to alert to the hazard presented by blasting. Blasting mats or other containment should be used where there is danger of rocks or other debris being thrown into the air or where there are buildings or transportation systems nearby. Care should be taken to make sure mats and other protection does not disturb the connections to electrical blasting caps.

Radio, television, and radar transmitters create fields of electrical energy that can,

under exceptional circumstances, detonate electric blasting caps. Certain precautions must be taken to prevent accidental discharge of electric blasting caps from current induced by radar, radio transmitters, lightning, adjacent power lines, dust storms, or other sources of extraneous or static electricity. These precautions shall include:

- Ensuring that mobile radio transmitters on the job site which are less than 100 feet away from electric blasting caps, in other than original containers, shall be de-energized and effectively locked;
- The prominent display of adequate signs, warning against the use of mobile radio transmitters, on all roads within 1,000 feet of the blasting operations;
- Maintaining the minimum distances recommended by the IMES between the nearest transmitter and electric blasting caps;
- The suspension of all blasting operations and removal of persons from the blasting area during the approach and progress of an electric storm.
- After loading is completed, there should be as little delay as possible before firing. Each blast should be fired under the direct supervision of the blaster, who should inspect all connections before firing and who should personally see that all persons are in the clear before giving the order to fire. Standard signals, which indicate that a blast is about to be fired and a later all clear signal have been adopted. It is important that everyone working in the area be familiar with these signals and that they be strictly obeyed.

Procedures After Blasting

Inspection After the Blast

Immediately after the blast has been fired, the firing line shall be disconnected from the blasting machine and short-circuited. Where power switches are used, they shall be locked open or in the off position. Sufficient time shall be allowed for dust, smoke and fumes to leave the blasted area before returning the spot. An inspection of the area and the surrounding rubble shall be made by the blaster to determine if all charges have been exploded before employees are allowed to return to the operation. All wires should be traced and the search for unexploded cartridges made by the blaster.

Disposal of Explosives

Explosives, blasting agents, and blasting supplies that are obviously deteriorated or damaged should not be used; they should be properly disposed of. Explosives distributors will usually take back old stock. Local fire marshals or representatives of the United States Bureau of Mines may also arrange for its disposal. Under no circumstances should any explosives be abandoned.

Wood, paper, fiber, or other materials which have previously contained high explosives, should not be used again for any purpose, but should be destroyed by burning. These materials should not be burned in a stove, fireplace or other confined space. Rather, they should be burned at an isolated outdoor location, at a safe distance from thoroughfares, magazines, and other structures. It is important to check that the containers are entirely empty before burning. During burning, the area should be adequately protected from intruders and all persons kept at least 100 feet from the fire.

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What Home Owners Need to Know About Removing Lead-Based Paint

The complete What Home Owners Need to Know About Removing Lead-Based Paint brochure is available as an Adobe Portable Document Format (PDF) file (size 159 KB 2pg).

NOTE: If work is being done under an order from a government agency, any method for removing lead-based paint should be cleared with that agency. Special regulations or conditions may apply.

Before the 1970s, household paint often contained lead. As lead paint ages, it can chip or crumble into dust. Exposure to lead-paint dust or chips can cause serious health problems. Children and pregnant women are at higher risk. So, if you live in or own an older home, you need to know how to protect yourself and others.

GETTING STARTED

There are many ways to reduce the hazards of lead-based paint — but **SOME METHODS OF REMOVING PAINT ACTUALLY INCREASE THE RISK OF LEAD EXPOSURE.** It's important to pick the safest method for your project; the goal is to reduce the hazards while creating as little lead dust as possible.

If lead paint on ceilings and walls is in good repair, then painting them or covering them with wallpaper may be all that is needed to keep the lead paint in place.

BUT —if lead paint is chipping or peeling, or if it's on a surface such as a windowsill or stair rail where children can chew on it, then the lead paint (or the painted material) should be removed or covered. Painted surfaces that rub on each other, such as doors and windows, require special attention to stop the friction. And if the paint has been damaged by other problems, such as water damage due to leaks, then the underlying problem should be fixed first.

SAFETY PRECAUTIONS

BE CAREFUL! During the work, you might stir up dust or create fumes containing lead. This can be very dangerous for adults, children and pets. Always use a method that creates the least amount of dust and fumes.

You should consider hiring a professional contractor with experience in working safely with lead removal. Whether you're going to do the job yourself or hire somebody, it's **YOUR** responsibility to see that the job is done safely.

Here are some tips:

- Children and pregnant women must not do any lead paint removal work, and they should stay out of the work area until clean-up is complete. (See "Clean-Up" section.) If you're not sure you can clean up every day, arrangements for temporary living quarters should be made.
- Work in one room at a time, and seal off the work area from the rest of the house, including any heating or ventilation ducts, using heavy plastic sheets (6-mil thick is good).
- **EVERYTHING** in the room (furniture, rugs, carpets, floors, bedding, drapes, dishware, food, toys, etc.) must be removed, or covered with **TWO** sheets of plastic (again, heavy, 6-mil plastic) and all the seams taped. Plastic used to cover the floor should be secured to the wall or baseboard with duct tape.
- Workers should wear disposable coveralls, shoes, hair covering, goggles and a respirator approved by NIOSH (the National Institute of Occupational Safety and Health) or MSHA (the Mine Safety and Health Administration). Approved respirators will have an approval number on them, (i.e., TC-21C-xxx). Only HEPA (High Efficiency Particulate Air) respirators will filter lead dust and fumes. Simple paper or fabric dust masks will **NOT** protect a worker from lead dust.
- To avoid ingesting lead, workers should not eat, drink or smoke on the job.

- Workers need to clean up carefully. Before leaving the work area, they should dispose of their coveralls, and remove the dust from their clothes with a HEPA (High-Efficiency Particulate Air) filtered vacuum cleaner. And workers should shower as soon as they can after work, so they don't spread lead dust around their homes.

WHAT TO DO

Enclosure

One way of reducing exposure to lead paint is to cover the surface with a new surface — by putting up drywall or by covering windowsills with vinyl or aluminum, for example. This doesn't require the removal of the lead paint, so this is often the easiest solution. But if the new surface is ever removed or damaged, the lead problem returns. Materials used to enclose lead-painted surfaces should be durable and fire resistant, such as gypsum board, aluminum, vinyl, plywood paneling, laminates, acrylic sheets, plexiglas, fiberglass, or tile.

What you should know about lead testing... Children who may have been exposed to lead-based paint should have a blood test to see if they have elevated blood levels. All children one and two years of age, or who may have been exposed, should be tested. Other children under six years of age, or who may have been exposed, should be tested if their doctors think they are at risk.

Encapsulation

Encapsulation is a technique that bonds materials to the existing painted surface; it's more than just a coat of paint, in that the encapsulant is bonded to the lead paint. It is important to follow product instructions exactly to be sure that a strong, long lasting bond is created.

Replacement

This might be a good time to think about replacement. Sometimes it's easier to replace windows, doors, or woodwork than it is to remove lead-based paint.

Removal

There are several ways to remove lead-based paints:

- **Wire brushing or wet hand scraping** with the aid of a non-flammable solvent or abrasive compound. Liquid paint removers can be used on small areas, such as windowsills, doors and woodwork. Read and follow the manufacturer's instructions and warning labels before purchasing and using. It is important for workers to use personal protective equipment, such as gloves, safety glasses and disposable coveralls when using some paint removers.
- **Wet hand sanding and/or power sanding with HEPA filters.** Only wet hand sanding and/or an electric sander equipped with a HEPA filtered vacuum attachment should be used. Dry hand sanding should never be done.
- **Heat stripping,** using a low temperature (below 1100 degrees F) heat gun, followed by hand scraping. Heat guns pose a fire hazard, and make lead dust and vapors, so they should be used only by experienced workers wearing respirators.

The following methods of paint removal are hazardous and in some communities illegal, and should NOT be used:

- open flame burning or torching;
- machine sanding or grinding without a HEPA attachment;
- abrasive blasting or sand blasting;
- power washing without a method to trap water and paint chips.

Exterior work should be done on calm days, and wet-misting or vacuuming should be used to control lead dust and paint chips during removal. The ground around the building should be protected with heavy (6-mil) plastic sheets. The outer edges of the sheeting should be raised to trap dust, debris, and liquid wastes. Wastes should be disposed of properly, as described below.

CLEAN-UP

Lead removal will generate lead dust and debris. Unless the house is properly cleaned, *it will be more hazardous after the work than it was before!*

Daily Clean-Up

Everyday, the debris should be misted with water, swept up and placed in double 4-mil or 6- mil plastic bags. Then all surfaces should be wet-dusted and wet-mopped. *This step is very important.*

Final Clean-Up

A HEPA-equipped vacuum should be used on all surfaces (floors, walls, ceilings, woodwork, carpeting, furniture). DO NOT use a standard household vacuum or shop vacuum, which are not designed or equipped to trap lead dust particles. Then wet-mop hardwood surfaces with a solution containing a heavy-duty household cleaner (automatic dishwasher detergent or a lead-specific detergent). The wet-mopping should be followed by another HEPA vacuuming.

Old rugs and carpets should be replaced, if possible; and all furniture, bedding, rugs, carpets, drapes, etc., that were removed prior to work should be cleaned before being brought back in.

DISPOSAL

Debris from lead-based paint removal or renovation may be double-bagged and disposed of in limited quantities in household trash. Lead debris must never be burned. Liquid wastes, including wash water, must never be dumped onto the ground; waste water should be filtered through a cloth filter before dumping into a sanitary sewer or toilet. The filtered debris can go out with the other trash. The mops and cloths used to clean up lead dust and debris should never be used for any other purpose, and should be disposed of when the job is done.

A FINAL WORD

It is safest not to undertake lead removal on your own. Contact your local health department for additional information or for help in identifying qualified contractors experienced in lead removal.

For additional information contact the

*New York State Health Department
Center for Environmental Health
Infoline: 1-800-458-1158*

Questions or comments: ceheduc@health.state.ny.us
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