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Environmental Program Fact Sheet

RENOVATION & DEMOLITION: ENVIRONMENTAL, HEALTH, & SAFETY REQUIREMENTS YOU SHOULD KNOW ABOUT



Do you do renovation or demolition work, or hire or oversee those who do?

If so, there are a number of environmental, health, and safety requirements that may apply to you.

Some of the more common and important of these requirements are listed below. Please note that not every possible requirement is listed, and that this information is only intended as a helpful summary.

If you would like more information about the requirements that apply to renovation and demolition, please contact the agencies listed in Table 1 at the end of this fact sheet.

ASBESTOS

Asbestos may be present in materials such as pipe, boiler, or tank insulation, plaster, siding, and roofing. Residential structures with 5 or more units, and commercial, industrial, institutional, and public structures must be inspected by an asbestos consultant before renovation or demolition is started, to determine if asbestos is present. A notification must be submitted to DPH whenever more than 10 linear or 25 square feet of asbestos will be disturbed. A notice must also be submitted to DPH when any structure is demolished. Consultants and contractors are licensed by DPH. Asbestos is regulated as a “special waste,” and cannot be disposed of with regular trash. Asbestos work must be done in accordance with worker protection requirements. Table 1, Key A1, B1, C2, C3, D, & E.

LEAD-BASED PAINT

Lead abatement activities in dwellings where children under six live and child day care facilities must be performed in accordance with CT’s Lead Poisoning Prevention & Control Regulations. Authority for enforcement of these regulations is delegated to local health departments. Lead inspectors, consultants and abatement contractors must be licensed.

The EPA Lead Pre-Renovation Education (PRE) Rule requires that anyone disturbing more than 2 square feet of existing painted surface in a pre-1978 house (i.e., contractors, landlords, property managers) must distribute the EPA lead hazard information pamphlet to the owner and the occupants of the residence, and obtain written acknowledgement of receipt from the owner and occupants.

The HUD Lead Safe Housing Rule applies to HUD funded rehab projects in pre-1978 housing, and to maintenance activities required by the HUD Housing Quality Standards in pre-1978 HUD-assisted residences (e.g., Section 8 Housing). Lead inspections, lead risk assessments, lead hazard screens, and clearance examinations must be performed by a certified risk assessor or lead inspector.

Lead-based paint wastes must be properly characterized to determine whether or not they are hazardous wastes, and the removal of any lead paint must be done so as not to violate air or water pollution control requirements.

Worker safety requirements often apply to lead removal work (see separate section below).
Table 1, Key A2, B1, D, & E.

FUGITIVE DUST & AIR EMISSIONS

Dust emissions must be controlled (e.g., with water misting) to ensure that they do not cross any property line. Also, if crushing or other processing equipment is going to be used on-site, it may trigger certain air permitting requirements. On-site emissions of silica, nuisance dust or other particulates may pose a safety hazard, and may be subject to certain worker protection requirements. Table 1, Key B8, B9, C2, D, & E.

WASTEWATERS

Activities like power-washing can generate wastewaters that must be collected and properly disposed. Such wastewaters must either be hauled off-site by a licensed hauler, or treated and discharged to the sanitary sewer (discharge to septic is not allowed). For a sanitary sewage discharge, permission must be obtained from the municipal sewer authority as well as from DEP under its "Miscellaneous General Permit." In addition, sites over five acres in size are subject to the DEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities. Table 1, Key B1 & B7.

SANDBLASTING & POWER-WASHING

Sandblasting creates large amounts of dust that can present a safety hazard both to the workers performing the sandblasting, and to any occupants of the structure and neighboring properties. This is particularly a concern if lead-based paint or asbestos is present. Sandblasting activities must be properly contained to prevent fugitive dust emissions. Spent sandblasting grit must be properly disposed of and may be a hazardous waste if lead-based paint is present. Power-washing creates a wastewater that must be collected and properly disposed. Table 1, Key A1, A2, B1, B7, B8, B9, D, & E.

WORKER SAFETY REQUIREMENTS

The federal Occupational Safety and Health Administration (OSHA) has numerous worker safety requirements that would apply to most companies involved in renovation or demolition. In particular, OSHA requirements address issues such as physical hazards (e.g., fall protection, confined spaces, trenching, use of tools), and chemical exposure hazards (e.g., asbestos, lead-based paint, solvents). Public-sector agencies (e.g., state and

local governments) are subject to the similar requirements of CONN-OSHA, a Division of the Connecticut Department of Labor. Table 1, Key D, E.

CONSTRUCTION & DEMOLITION WASTE

Construction and demolition waste (or “C&D waste”) can include anything from individual architectural components (i.e., doors, windows, siding, etc.) to whole-building demolition debris. C&D waste may be contaminated with asbestos, lead-based paint, or chemical residues and require special disposal (see separate sections on these topics for more information). Uncontaminated C&D waste that is disposed of must be sent to a landfill or volume reduction facility (VRF) that is permitted to take C&D waste. Uncontaminated C&D waste can also be recycled or reused. Many C&D components can be sent to permitted recycling facilities to be made into new products. Clean rock, brick, ceramic, concrete, and asphalt may be utilized on-site as fill material. However, see the section on fugitive dust and air emissions for requirements that may apply if crushing is required in order to use these materials as fill. Table 1, Key B1 & B5.

TREATED WOOD

There are a number of types of treated wood, including pressure-treated wood, and wood that has been treated with pentachlorophenol (“penta”) or creosote. Pressure-treated wood may contain the toxic metals chromium or arsenic. Penta and creosote are both pesticides whose use has been restricted since 1986. Pressure treated wood may not be buried or burned on-site or processed into mulch, but must instead be sent to a permitted facility for disposal. Wood that has been treated with penta can be classified as a hazardous waste if the concentrations of penta are high enough. Table 1, Key B1 & B5.

LAND-CLEARING DEBRIS

Land-clearing debris includes items such as trees, stumps, and brush that must be removed as part of site preparation work. Land-clearing debris may not be buried on-site, but can be sent to a recycling or disposal facility that is permitted to take such items. If there is a need for mulch or wood chips at the work site, equipment may be brought in to process the land-clearing debris into the desired form (however, see section on fugitive dust and air emissions for requirements that may apply to such processing). Processing of materials from off-site cannot be conducted without a solid waste permit. Table 1, Key B1 & B5.

CHEMICAL PRODUCTS

Commercial and industrial sites may have process chemicals, oils, cleaning products, or other chemical products stored inside them. Many of these products may be classified as hazardous waste when disposed, and most others may not be disposed of with regular trash. These materials must be shipped to a permitted disposal facility by a licensed transporter. Residential sites may also contain chemical products (paints, solvents, pesticides, cleaners, etc.). Although household wastes are not subject to hazardous waste requirements, most of these products may not be disposed of with regular trash. However, in many cases, these materials may be disposed of at a local household hazardous waste collection center or one-day collection event (check with your local recycling coordinator for more information on the services available in your area). Table 1, Key B1.

MERCURY

Fluorescent lamps, thermostats, mercury switches, manometers, natural gas meters, and other items can contain enough mercury to be classified as a hazardous waste, and may therefore not be disposed of as regular trash. However, lamps and thermostats are eligible for management under a new, special set of hazardous waste requirements known as the Universal Waste Rule. Table 1, Key B1, B5.

POLYCHLORINATED BIPHENYLS (PCBs)

PCBs can be found in a number of items, including transformers, capacitors, fluorescent light ballast and other oil-containing equipment, and in certain building materials (i.e., roofing, flooring, insulation, etc.). PCB-containing items such as these must be managed and disposed of in accordance with special PCB requirements. Table 1, Key B1, B2, and C4.

USED ELECTRONICS & BATTERIES

Used electronics and batteries may contain enough lead, mercury, cadmium, or acid electrolytes to be classified as hazardous waste. In such cases, they may not be disposed of as regular trash. However, like mercury thermostats, these items are eligible for management under a new, special set of hazardous waste requirements known as the Universal Waste Rule. Table 1, Key B1, B5.

CONTAMINATED EQUIPMENT/STRUCTURES/SOIL

Commercial and industrial facilities may contain contaminated equipment or structures (e.g. tanks, ductwork, piping, process equipment, wood flooring, etc.). Contaminated soil may also be present, either under the building footprint, or outside it. In some cases, these materials may be classified as hazardous waste when disposed. In other cases, they may not be hazardous waste, but may still be restricted from disposal at a solid waste landfill without authorization from DEP. Table 1, Key B1, B4.

A.C. & REFRIGERATION EQUIPMENT

Such equipment must be removed and disposed of in such a manner so as to prevent the venting of CFCs (e.g., Freon) to the atmosphere. Table 1, Key C1.

UNDERGROUND STORAGE TANKS (USTs)

Commercial and industrial sites often have petroleum USTs that may be subject to certain procedures for registration, removal and abandonment. In cases where such tanks have leaked, the affected area must be cleaned up to specified remediation standards, as determined through confirmation sampling. Residential USTs are not subject to the same rules as commercial and industrial USTs, but should still be properly removed or abandoned, and underlying soils tested to determine if there have been any releases to the environment. Wastes generated from the removal and cleanup of all USTs must be properly tested and disposed of in accordance with solid and/or hazardous waste requirements. Table 1, Key B1, B3.

SITE CLEANUP ISSUES

There are a number of soil and groundwater cleanup requirements that may apply. Some industrial and commercial sites are required to be cleaned up under DEP's Property Transfer Program. Others may be under cleanup orders from DEP. Table 1, Key B4.

SPILLS

Any spill of oil or petroleum, chemical liquids or solids, or hazardous waste must be reported immediately by calling the DEP's 24-hour spill reporting number: (860) 424-3338. Table 1, Key B6.

DRINKING WATER SUPPLIES

There are certain public health requirements relating to:

1. the potable water source at the site (well or public water system),
2. plumbing materials used in renovations (must be free of lead solder),
3. the potential for any cross connections that may contaminate the potable water supply; and,
4. the electrical wiring/components of the water supply system (must meet applicable CT Building Code requirements). Table 1, Key A3.

OTHER ISSUES

RADON is a naturally-occurring radioactive gas that is emitted from the bedrock in many parts of Connecticut. Testing should be performed both before and after renovation activities to ensure that indoor air is safe. Table 1, Key A1.

MOLD can be produced when building materials are exposed to moisture. The mold spores that are subsequently released can cause irritation and allergic reactions in workers and building occupants. For more info, see the DPH web site at www.dph.state.ct.us/BRS/EOHA/iaqcm.htm.

CALL BEFORE YOU DIG is a free service you should use prior to excavation to check for underground utilities. Go to www.cbyd.com, or call toll free at 1-800-922-4455.

THE DEPARTMENT OF PUBLIC SAFETY has certain rules that apply to renovation and demolition projects and the contractors that perform them. For more information, see their web site at www.ct.gov/dps and search under the keywords "demolition" and "state building inspector."

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The Connecticut Department of Public Health

The U.S. Department of Labor, Occupational Safety & Health Administration (OSHA)

The Connecticut Department of Labor, Division of Occupational Safety & Health (CONN-OSHA).

Check the Internet at www.dep.state.ct.us for an upcoming web version of this fact sheet with more information and links!

TABLE 1: List of Contacts for Additional Information

AGENCY	KEY	DIVISION / PROGRAM	TELEPHONE NUMBER / WEB SITE
CT Dept. of Public Health (DPH)	A1	Environmental Health Section <ul style="list-style-type: none"> • Asbestos Program • Radon Program 	(860) 509-7367 www.dph.state.ct.us/BRS/Asbestos/asbestos_program.htm www.dph.state.ct.us/BRS/radon/radon_program.htm
	A2	Lead Environmental Management Unit (lead-based paint)	(860) 509-7299 www.dph.state.ct.us/BRS/Lead/lead_program.htm
	A3	Water Supplies Section	(860) 509-7333 http://www.dph.state.ct.us/BRS/water/dwd.htm
CT Dept. of Environmental Protection (DEP)	B1	Waste Engineering & Enforcement Division (solid and hazardous waste)	(860) 424-3023 www.dep.state.ct.us/pao/WEEDfact/specasbs.htm www.dep.state.ct.us/wst/hazardous/hwd.htm www.dep.state.ct.us/wst/recycle/fllist.htm www.dep.state.ct.us/wst/mercury/uwrule.htm www.epa.gov/epaoswer/hazwaste/id/infocus/rif-c&d.pdf
	B2	PCB Program	(860) 424-3368 www.dep.state.ct.us/wst/pcb/pcbindex.htm
	B3	Underground Storage Tank Program	(860) 424-3374 www.dep.state.ct.us/wst/ust/indexust.htm
	B4	Remediation Division (site cleanup requirements)	(860) 424-3705 www.dep.state.ct.us/wtr/remediation/index.htm
	B5	Source Reduction & Recycling Program (recycling programs)	(860) 424-3365 www.dep.state.ct.us/wst/recycle/ctrecycles.htm
	B6	Emergency Response & Spill Prevention Division	(860) 424-3338 or 1-866-DEP-SPIL www.dep.state.ct.us/wst/oilspill/index.htm
	B7	Water Bureau Permitting & Enforcement Division (wastewater)	(860) 424-3018 www.dep.state.ct.us/wtr/index.htm www.dep.state.ct.us/pao/download.htm#Water
	B8	Air Compliance & Field Operations Division (enforcement)	(860) 424-3702 www.dep.state.ct.us/air2/index.htm
	B9	Air Engineering & Technical Services Division (permitting)	(860) 424-4152 www.dep.state.ct.us/air2/index.htm
U.S. Environmental Protection Agency (EPA)	C1	Stratospheric Protection Division (ozone depletion/freon)	(800) 296-1996 www.epa.gov/ozone
	C2	Asbestos NESHAPs Program	(617) 918-1843 www.epa.gov/asbestos www.epa.gov/NE/enforcement/asbestos/index.html
	C3	Asbestos Hazard Emergency Response Act (AHERA) Schools Program	(617) 918-1524 www.epa.gov/opptintr/asbestos/pubs/asbestos_in_schools.html
	C4	PCB Program	(617) 918-1527 www.epa.gov/pcb
U.S. Dept. of Labor	D	Occupational Safety & Health Administration (OSHA)	Hartford: (860) 240-3152 Bridgeport: (203) 579-5581 www.osha.gov
CT Dept. of Labor	E	Division of Occupational Safety and Health (CONN-OSHA)	(860) 263-6900 www.ctdol.state.ct.us/osha/osha.htm



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RED FLAG LIST

RENOVATION AND DEMOLITION

"RED FLAG" LIST



AN AID TO LOCAL
OFFICIALS
INVOLVED IN
RENOVATION AND
DEMOLITION

If you see any of the things listed in the table below, please call the agencies referenced in the right-hand column. The names of the agencies and their telephone numbers are listed in Table 1 on the flip side of this list.

	IF YOU SEE	PLEASE CALL
ASBESTOS	Renovation or demolition of a residential structure with 5 or more units, or an institutional, commercial, or public structure without first having an asbestos inspection performed by someone with the required DPH license.	Table 1, Key A1 or C2
	Failure to file a DPH asbestos abatement notification or demolition notification.	Table 1, Key A1
	Someone providing asbestos consultation or abatement services without a license from CT DPH.	Table 1, Key A1
	Disposal of asbestos-containing material in the regular trash, or abandonment/dumping of asbestos.	Table 1, Key B1
LEAD PAINT	Uncontrolled paint disturbance at pre-1978 dwellings with children under age 6 in residence.	Local Health Dept. Table 1, Key A2
	Someone providing lead paint consultation or abatement services without a certification or license from CT DPH.	Table 1, Key A2
	Disposal of lead-based paint wastes in the regular trash without prior testing, or abandonment/dumping of lead paint wastes.	Table 1, Key B1
	Improperly contained sandblasting of lead-based paint surfaces (e.g., spent grit/paint chips allowed to fall on ground, dust drifting onto adjacent properties).	Local Health Dept. Table 1, Key A2, B1, B8
	Improperly contained power-washing of lead-based paint surfaces (e.g., spent wastewater and paint chips discharging to storm drains or to waterways).	Local Health Dept. Table 1, Key A2, B7
SAFETY / OTHER	Workers being exposed to lead, asbestos or other workplace hazards without adequate controls to prevent injury.	Table 1, Key D (private) Table 1, Key E (public)
	Improper disposal of wastes (e.g., to the ground, in wetlands, etc.).	Table 1, Key B1
	Disposal of hazardous wastes (e.g., chemicals, batteries, fluorescent lights, mercury thermostats, used electronics) with regular trash or construction and demolition waste.	Table 1, Key B1
	Improper management or disposal of PCBs (e.g., lighting ballast, transformers).	Table 1, Key B2
	Unregistered, unprotected (e.g., bare steel), leaking, or improperly abandoned USTs.	Table 1, Key B3
	Spill of oil or petroleum, chemicals, or hazardous waste.	Table 1, Key B6
	Unpermitted wastewater discharges to sewers, streams, storm drains, or septic systems.	Table 1, Key B7
	Improper cleanup of polluted soil or groundwater.	Table 1, Key B4
	Fugitive dust emissions crossing a property line.	Table 1, Key B8
	Freon being vented to the atmosphere.	Table 1, Key C1
	Water Supplies: (1) Use of solder that contains lead in excess of .2%. (2) Cross connection of potable water supply evident.	Local Health Dept. Table 1, Key A3

About the "Red Flag" List

This "Red Flag" List does not include all the requirements that apply to renovation and demolition. A brief summary of some of the more important issues relating to renovation and demolition are provided below. For more information on the programs and requirements that apply to these activities, please see the companion flier entitled Renovation and Demolition: Environmental, Health and Safety Requirements You Should Know About, or call the agencies listed in the Table at the right.

ASBESTOS can be present in many kinds of building materials, including duct, pipe, boiler, and tank insulation, floor tile, plaster, siding, and roofing. The improper removal or disposal of asbestos can expose construction workers, residents, and others to asbestos, and result in serious illness or injury (sometimes years after the exposure).

LEAD-BASED PAINT is found in many pre-1978 houses (use of lead in paint was banned in 1977). Lead-based paint can be found on interior and exterior surfaces, windows, doors, and trim. Lead-based paint can also be found on almost any material, including wood, metal, vinyl, plaster, and others. The improper removal or disposal of lead-based paint can expose workers, residents, and others, and result in serious illness, especially to children under the age of six.

SAFETY ISSUES at work sites can include physical hazards (e.g., fall protection, confined spaces, trenching, use of tools). Chemical exposure hazards can also be a concern (e.g., asbestos, lead-based paint, paints, solvents, etc.). If renovation and construction work is not done in accordance with required safety protocols, serious injuries or illness could result.

WASTE DISPOSAL is a major issue at renovation and demolition sites, since significant amounts of wastes are typically generated. While some of these wastes may be ordinary construction and demolition ("C&D") waste, some of these wastes may be hazardous wastes that require special disposal.

WASTEWATERS can often be generated at renovation and demolition sites, from activities such as power-washing. If these wastewaters are not properly managed, they can cause water pollution, contaminate septic systems, or cause problems at the local wastewater treatment plant.

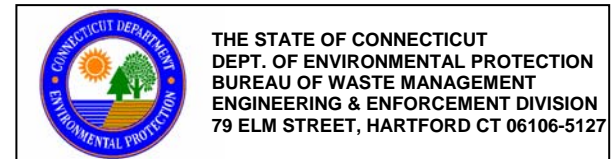
AGENCY	KEY	DIVISION / PROGRAM	TELEPHONE #
CT Dept. of Public Health (DPH)	A1	Indoor Air Program (asbestos and radon)	(860) 509-7367
	A2	Lead Environmental Management Unit (lead-based paint)	(860) 509-7299
	A3	Water Supplies Section	(860) 509-7333
CT Dept. of Environmental Protection (DEP)	B1	Waste Engineering & Enforcement Division (solid and hazardous waste)	(860) 424-3023
	B2	PCB Program	(860) 424-3368
	B3	Underground Storage Tank Program	(860) 424-3374
	B4	Waste Planning & Standards Division (site cleanup requirements)	(860) 424-3705
	B5	Waste Planning & Standards Division (recycling programs)	(860) 424-3365
	B6	Oil and Chemical Spill Response Division	(860) 424-3338
	B7	Water Bureau Permitting & Enforcement Division (wastewater)	(860) 424-3018
	B8	Air Compliance & Field Operations Division (enforcement)	(860) 424-3702
	B9	Air Engineering & Technical Services Division (permitting)	(860) 424-4152
U.S. Environmental Protection Agency (EPA)	C1	Global Programs Division (ozone depletion/freon)	(800) 296-1996
	C2	Asbestos NESHAPs Program	(617) 918-1843
	C3	Asbestos Hazard Emergency Response Act (AHERA) Schools Program	(617) 918-1524
	C4	PCB Program	(617) 918-1527
U.S. Dept. of Labor	D	Occupational Safety & Health Administration (OSHA)	Hartford: (860) 240-3152 Bridgeport: (203) 579-5581
CT Dept. of Labor	E	Division of Occupational Safety and Health (CONN-OSHA)	(860) 263-6900

AIR EMISSIONS can be produced by activities such as crushing or sandblasting. If not properly controlled, these air emissions can expose on-site workers to nuisance dusts or harmful air pollutants. If the emission travels off-site, it can contaminate adjacent properties and expose their occupants.

PCBs, or polychlorinated biphenyls, are toxic chemicals used in transformers, capacitors, fluorescent lighting ballast, and in certain building materials, until their manufacture was banned in 1978. Mismanagement of PCBs can result in worker exposures, and pollution of soil, surface waters and groundwater.

USTs, or underground storage tanks, are often used to store heating oil, fuels, and other materials. Old and leaking USTs, or improperly abandoned or removed USTs, can cause pollution of soil, ground, and surface waters.

FREON® is a trade name for a group of gases that are used as refrigerants in air conditioners, refrigeration equipment, etc. Certain kinds of Freon® are known to attack the Earth's ozone layer if they are improperly vented to the atmosphere.



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 IN ASSOCIATION WITH:**

- The Connecticut Department of Public Health (DPH)
- The U.S. Department of Labor, Occupational Safety & Health Administration (OSHA)
- The Connecticut Department of Labor, Division of Occupational Safety & Health (CONN-OSHA)



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