



CONNECTICUT
HOUSING FINANCE
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Connecticut Housing Finance Authority

Construction
Guidelines:
Environmental &
Hazardous Materials
Review

2017

These Guidelines are effective January 1, 2017

CHFA Construction Guidelines: Environmental & Hazardous Materials

January 2017

The “Construction Guidelines: Environmental & Hazardous Materials” outlines the CHFA environmental review process. These Guidelines shall be followed when CHFA is providing construction financing of multifamily developments pertaining to both new construction and the rehabilitation of existing buildings and properties. CHFA may select and commission an outside, third-party CT Licensed Environmental Professional (CT LEP) (at the applicant’s expense), from a CHFA approved list to review environmental reports for conformance to these Guidelines. When required, the applicant will make a non-refundable payment for such environmental reviews.

I. Environmental Consultant Qualifications

Environmental consultants shall be licensed in the State of Connecticut with a current and active license. The Connecticut Department of Energy and Environmental Protection (CT DEEP) maintains the roster of Connecticut licensed environmental professionals (CT LEP) which can be accessed on their website. The Connecticut Department of Public Health (CT DPH) also maintains the roster for qualified parties for their Lead Program and Asbestos Program, if required. For asbestos and lead based paint issues, CT DPH requires the project consultants be on the approved lists as noted below:

- a. Licensed lead abatement consultants and contractors;
- b. Licensed asbestos consultants and contractors;
- c. In-state approved commercial environmental laboratories;
- d. Out-of-state approved commercial environmental laboratories; and
- e. Approved non-commercial environmental laboratories

The owner/developer shall contract with a CT LEP to investigate proposed development sites and existing buildings, in order to identify environmental concerns that need to comply with federal and/or state regulations. Based on the nature/conditions of the site and the types of environmental concerns initially identified by the environmental consultants, additional investigation and/or testing may be required. Based on the results of investigation and testing, site and/or building remediation and/or abatement may be required. The licensed environmental professional shall evaluate the site thoroughly via Environmental Site Assessments to give a sound and reasonable opinion regarding the findings, including whether additional site investigation and testing is warranted.

II. Types of Environmental Site Assessments

An Environmental Site Assessment (ESA) is an investigation conducted of a specific site of either vacant land or a developed piece of property. The ESA’s are generally presented in three major phases of investigation: Phase I, II and III. For certain sites, it may be cost effective to combine Phase I and Phase II or Phase II and Phase III. Environmental Site Assessments shall comply with the National Environmental Policy Act (NEPA) including current revisions published by the CT DEEP and ASTM Standard E1527-13.

1. Phase I Site Assessment (ESA): A Phase I Site Assessment investigation of the existing and past uses of a site for the purpose of identifying areas on a site at which pollutants may have been released into the environment is required for all projects seeking financing through CHFA. Such areas may be identified as “Areas of Concern”, “Potential Release Areas” or “Recognized Environmental Conditions”.

Based upon the owner’s environmental consultant’s findings, and/or the opinion of the CHFA third-party environmental consultant’s review/opinion, a Phase II Site Assessment may be required. Any and all areas of concern as defined in the “Site Characterization Guidance Document” should be evaluated along with any and all Recognized Environmental Conditions as defined in ASTM E1527-13. Based on the information submitted and reviewed, additional phased site investigations, testing and/or reports,

may be required. Per ASTM 1527-13, the Phase I ESA is not considered current if more than 180 days old (6 months). Per CHFA funding requirements, the Phase I ESA must be considered current at the time of application for funding.

2. **Phase II Site Assessment:** A Phase II Site Assessment is an investigation of each “Area of Concern”, “Potential Release Area” or “Recognized Environmental Condition” to determine whether or not pollutants have been released to the site soils or groundwater. Based upon the owner’s environmental consultant’s findings, and/or the opinion of the CHFA third-party environmental consultant’s review/opinion, a Phase III Site Assessment may be required.
3. **Phase III Site Assessment:** A Phase III Site Assessment is an investigation that fully characterizes the nature and extent of contamination resulting from any release which has occurred on a site. While remedial actions to abate pollution may be taken at any time in the course of characterizing a site, a final remedial action plan can only be developed after a complete Phase III investigation.

III. Hazardous Materials

Hazardous materials include materials such as asbestos, lead-based paint, and polychlorinated biphenyls (PCBs). Hazardous materials surveys can be classified into three (3) major types; a general survey, a renovation impact survey and a pre-demolition survey. In all cases, a licensed inspector (asbestos and/or lead based paint) shall oversee the survey and provide direction as needed.

A general survey is an examination of the materials used in building construction documenting the existing known hazardous materials. This survey typically does not involve destructive sampling within wall cavities, above ceilings, below flooring tiles, etc.

A renovation impact survey is an investigation of building materials when a structure will be undergoing a renovation or rehabilitation. In this survey, destructive sampling may be required to uncover any hidden hazardous materials. This type of survey is required when hazardous materials are suspected to be present and the scope of work should be utilized to inform the extent of the required testing.

The final type of survey is the pre-demolition survey which is an investigation done prior to a building or structure slated for complete demolition. This type of survey is also required prior to any demolition work occurring.

IV. Types of Hazardous Materials

A. Lead-based paint requirements

The following are requirements and additional information regarding lead-based paint testing and remediation per the CT DPH.

If during a Phase I ESA, a CT LEP identifies defective paint in a pre-1978 residential dwelling, a comprehensive lead inspection shall be conducted during Phase II ESA testing. During the Phase II ESA, since defective paint was identified in a pre-1978 residential dwelling, a comprehensive lead inspection shall be conducted by a CT DPH licensed lead consultant. The comprehensive lead inspection will test all painted surfaces on the interior/exterior of the unit, as well as common areas. In addition, dust, water and soil (only bare soil areas) shall be tested.

The CT DPH licensed lead consultant should provide the owner's CT LEP with a lead inspection report summarizing the lead hazard findings.

If there is a child under the age of six years old in residence:

1. The CT DPH licensed lead consultant shall report their findings to CT DPH and the local director of health;
2. This will then trigger the CT Lead Poisoning Prevention Program regulations;
3. The local director of health will issue an order letter to the property owner for all lead hazards to be abated;
4. All defective lead surfaces and soil must be abated by a CT DPH licensed lead abatement contractor;
5. Before abatement work begins, the property owner (or the CT LEP/third party firm) must submit a lead abatement plan (describing how all lead hazards and defective lead-based paint surfaces will be abated) and a lead management plan (a plan identifying all lead-based paint that is intact which will be checked by the property owner on a regular basis to ensure it remains intact) to the local health department for their approval, the plans must be written by a CT DPH licensed lead consultant who employs a CT DPH certified program planner designer;
6. Once the abatement plan is approved, lead abatement work can begin;
7. The CT DPH licensed lead abatement contractor must employ a CT DPH certified lead abatement supervisor to oversee the lead abatement work which must be performed by CT DPH certified lead abatement workers;
8. Before abatement work begins, the property owner must notify the residents 5 days in advance, as this ensures that they are safely relocated;
9. When abatement is complete, clearance dust wipes must be taken by a CT DPH licensed lead consultant;
10. Once clearance dust wipes pass, the local health department must conduct a visual assessment of the property to ensure compliance with the abatement plan; and,
11. The local health department will then issue a letter of compliance to the property owner.

If there is no child under the age of six years old in residence:

1. The property owner or the CT LEP/third party firm must hire an EPA renovation, repair and painting (RRP) certified firm to make all defective lead-based surfaces intact or as alternative, the property owner or the CT LEP/third party firm may hire a CT DPH licensed and certified lead professionals to perform lead abatement;

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2. Before work begins, the property owner or the CT LEP/third party firm must complete a lead hazard remediation plan describing how all lead hazards and defective lead-based paint surfaces will be corrected. A lead management plan identifying all lead-based paint that is intact will need to be created. This plan will be checked by the property owner on a regular basis to ensure it remains intact. A CT LEP/third party firm will approve. (A director of health does not need to approve these plans as there are no children under the age of six years old in residence);
3. Once the lead hazard remediation plan is approved, lead remediation can begin;
4. The EPA RRP certified firm must employ at least one EPA certified renovator (who oversees the work, completes necessary paperwork and teaches other workers how to do job specific tasks;
5. When remediation is complete, clearance dust wipes must be taken by a CT DPH licensed lead consultant; and,
6. Once clearance dust wipes pass, the CT LEP/third party firm, should conduct a visual assessment of the property to ensure compliance with the remediation plan.

The following templates are available through the CT DPH:

1. Lead remediation template;
2. Lead abatement plan template;
3. Lead management plan template;
4. Checklist for lead abatement projects; and,
5. Checklist for lead-safe projects.

B. Asbestos

All current, applicable federal, state and local laws and regulations shall be followed. An asbestos renovation impact survey is an investigation of any asbestos containing building materials when a structure will be undergoing a renovation or rehabilitation. In this survey, destructive sampling may be required to uncover any hidden asbestos. This type of survey is required when hazardous materials are suspected to be present and the scope of work should be utilized to inform the extent of the required testing.

An asbestos pre-demolition survey shall be done prior to a building or structure slated for complete demolition. This type of survey is also required prior to any demolition work occurring. It is recommended that a licensed asbestos inspector or consultant be included as part of the project team to oversee and advise on any issues related to asbestos documentation and/or abatement.

C. Radon

Provide radon testing of properties where buildings will be used for residential occupancy. In the case of multiple buildings within a development, all residential units with occupied rooms at or below ground level shall be tested in each building. Upper levels shall only be tested if there are frequently occupied rooms located above untested ground contact areas. The building being tested shall have all windows and doors shut twelve hours prior to and during the entire test period.

Routine ingress and egress is allowed. The most ideal time period for testing is between the colder months of November through March. Testing shall not be conducted during abnormal weather conditions or during any structural changes to the building or HVAC system. Radon tests shall be placed where they are least likely to be disturbed and in accordance with the following:

(1) minimum of 20 inches above floor, (2) three feet away from exterior walls, doors, or windows, (3) one foot away from interior walls, (4) four inches from other objects, (5) away from any vents, appliances, and potential drafts, and (6) away from any heat source including direct sunlight and areas of high humidity.

If an initial radon level in an existing building is at or above the United States Environmental Protection Agency action level of 4.0 picocuries per liter (pCi/L), a confirmatory test shall be done in the same location for the same amount of time. If the average of the initial and confirmatory test is at or over 4.0 pCi/L, a radon mitigation system shall be installed by a nationally certified radon mitigation professional to reduce the radon levels to below 2.0 pCi/L. A list of these professionals can be found on the CT DPH website: www.ct.gov/dph/radon.

If radon testing is not possible, as in cases of gut rehabs and new construction, a passive radon mitigation system shall be incorporated into the design specifications of the construction project.

This system includes the following features:

- A gas permeable layer, such as 4-inch gravel, placed beneath the slab to allow soil gases to move freely underneath the building
- Plastic sheeting over the gas permeable layer and under the slab to help prevent soil gases from entering the home
- Sealing and caulking all openings in the foundation floor to reduce soil gas entry
- A vent pipe, such as 6 inch PVC pipe, to run from the gas permeable layer through the building to the roof to safely vent soil gases above the building
- An electrical junction box installed in case an electric venting fan is needed later

The new building should be tested for radon after construction is completed and is ready for occupation. If radon results are at or above 4.0 pCi/L, the existing system should be activated by installing an in-line fan. Further information about Radon Resistant New Construction can also be found at www.ct.gov/dph/radon.

D. Mold and Moisture

Damp indoor environments have been shown to negatively impact health. Inspections shall be conducted for visual evidence of dampness, moisture incursion, moisture damage, and mold. Moisture meters may be used as an inspection aid as long as the meter to be used is designed to measure moisture content on the substrate of interest. Water sources resulting in indoor dampness must be located and remediated. Moldy building materials and/or porous personal belongings furnishings must be discarded. Indoor relative humidity should be maintained below 60% at all times to minimize indoor mold growth. Air testing for mold is NOT recommended by the CT Department of Public Health and most nationally recognized health authorities.

E. Other Environmental Concerns

Environmental surveys should also be performed for each of the following environmental concerns based on the date building construction, and/or other specific issues related to the development.

- a. Mold;

- b. Polychlorinated biphenyls (PCBs) / PCBs in soil;
- c. Drinking water/piping systems;
- d. Flood classification and/or flood zone;
- e. Wetland classification and designated areas; and,
- f. Lead in soil.

F. Abatement and Mitigation

Design and construction documents (drawings and specifications) shall incorporate work necessary to mitigate environmental concerns identified by CHFA and the owner's consultants unless these concerns are addressed prior to construction start and are outside the limits of the construction documents.

Mitigation methods shall be in accordance with a plan prepared in conformance with applicable state and federal regulations and accepted by CHFA.

G. Connecticut Transfer Act Opinion Statement

The owner's environmental attorney needs to confirm review of environmental reports prepared by consultants to insure that all applicable environmental regulations specific to the property will be met, including an opinion regarding the applicability of the CT Transfer Act and whether the site meets the definition of an "Establishment" per the Act. The opinion-statement from the owner's environmental attorney will be required prior to initial closing.

H. Abatement/Remediation Costs

Upon completion of all testing, and the determination of the scope of possible abatement and/or remediation work, cost information shall be submitted for review. Costs for testing and abatement should be included in the project cost summary and exploded trade payment breakdown on the appropriate individual line items of Testing and Environmental.

I. Hazardous Material Notification Clause

In all developments involving demolition or rehabilitation, specifications shall be written to include the following:

"In carrying out the work of this contract, should the contractor encounter asbestos or other toxic materials the contractor shall:

- 1. Notify all parties to this contract;*
- 2. Notify applicable State and local authorities; and (if the cleanup is to be carried out under the direction of the contractor);*
- 3. Make application for permits necessary for removal (or other methods of mitigating the potential harmful effects) of such materials; and,*
- 4. Upon receipt of required permits mitigate potential harmful effects of such materials in accordance with permits and applicable codes and laws."*

If the contractor is not to be responsible for mitigation, the sponsor/developer/owner shall carry out mitigation in accordance with the requirements as stated above.

V. Remediation/Re-use of Existing Brownfield Sites

The re-use and redevelopment of abandoned or underutilized commercial and industrial sites, is encouraged where redevelopment and re-use has not occurred due to the presence or potential presence of pollution in the buildings, soil and/or groundwater, which requires remediation before, or in conjunction with, the restoration, redevelopment and re-use of the property.

A Phase I ESA is required and most likely, a Phase II and III would also be needed as well as a Remediation Action Plan (RAP). After the site investigations and subsequent reports, the developer, contractor, environmental consultant and architect shall estimate the costs necessary to remove the contamination, provide the appropriate environmental remediation and restore the property to a “buildable” site.

The “soft costs” portion of the pro forma for the development shall include an additional contingency for the necessary removal of unforeseen underground debris, environmental remediation and site restoration, as may be determined during the course of normal construction activities.

Building materials, components, fabrications, assemblies and equipment for all proposed development projects – rehabilitations and new construction – should comply with the applicable sections of the current “Multifamily Design, Construction and Sustainability Standards-CHFA” (the Standards). The “Construction Guidelines: Project Planning & Technical Services Review” and the Standards define the design process and the specific recommendations for multifamily housing financed through CHFA. All applicants should strive to meet the Standards and Guidelines, must comply with CHFA Procedures and the requirements of the CHFA/DOH Consolidated Application and all current federal, state & local environmental laws & regulations.