

Health and Safety Barrier Remediation Guidelines

Purpose of this Guideline: This document provides measure-by-measure, barrier remediation requirements for contractors, subgrantees, and QCs. DOE WAP requirements and Connecticut requirements are the baseline. Where multiple standards apply, the most restrictive governs. The barriers described herein represent common conditions but do not constitute a comprehensive list. Other conditions may be present, including but not limited to pest infestations, hoarding, or other site specific hazards. Any condition that impedes the safe and effective completion of weatherization work must be addressed in accordance with applicable federal, state, and local requirements prior to proceeding, or the unit must be deferred consistent with program policy.

Barrier	Weatherization Feasibility and Issue Identification	Pre-Remediation	In-Progress	Post-Remediation Inspection and Energy Audit	Final Closeout / Inspection Report	Resources
Asbestos	<p>Suspected, or Presumed Asbestos-Containing Material (PACM) or confirmed asbestos-containing material (ACM) must be identified and managed to enable safe, effective and comprehensive weatherization activities to occur.</p> <p>Friable PACM/ACM or PACM/ACM that will become friable due to weatherization activities must be encapsulated or remediated to ensure the health and safety of the weatherization workers and occupants.</p> <p>Common Barriers To Weatherization:</p> <ul style="list-style-type: none"> Attic vermiculite or debris that may be disturbed by air sealing, insulation installation, or other work conducted in the attic. Pipe/duct insulation that is friable in areas requiring air sealing or mechanical work. PACM/ACM that must be drilled, cut, and otherwise disturbed for dense-pack wall insulation, duct sealing, or HVAC installation. <p>Non-Barrier Examples</p> <ul style="list-style-type: none"> Intact non-friable PACM or ACM that will not be disturbed by proposed work scope or specifications and does not pose a risk to the weatherization workers or building occupants in relation to the weatherization activities Intact non-friable PACM or ACM on HVAC systems, Duct Work, Ceiling Tiles, Plaster, Pipe Insulation, and Flooring since these do not typically present as a barrier to the weatherization work. Friable PACM or ACM related to flooring tiles are not typically considered a barrier to weatherization services. <p>Contractor Qualifications</p> <ul style="list-style-type: none"> Connecticut DPH-licensed asbestos abatement contractor. Supervisors/workers must hold required asbestos certifications. Clearance/oversight by appropriately qualified asbestos consultant/inspector when required by CT rules and project conditions. 	<p>Required Prior to Approval</p> <ul style="list-style-type: none"> The Weatherization Readiness Funds Approval Request Form is required for all WRF work related to Asbestos A Scope of Work and Specifications related to Asbestos including: <ul style="list-style-type: none"> Quantities to be removed Quantities of non-friable PACM that are not a barrier to weatherization and will remain Asbestos work type (i.e. Removal, Enclosure, encapsulation, or Avoidance) Asbestos containment plan Photo documentation of existing conditions including barriers to weatherization. Justification for the use of Health and Safety and Weatherization Readiness Funds. <p>Supporting Documentation</p> <ul style="list-style-type: none"> Weatherization Work Specifications describing the measure(s) and associated Ancillary or Incidental Repair Measures that would disturb PACM or ACM. Blower door policy decision documented if PAC or ACM vermiculite is present including: <ul style="list-style-type: none"> The decision to pressurize or depressurize the structure <p>Testing and Assessment</p> <ul style="list-style-type: none"> In limited circumstances assessment, testing, or sampling may be allowed before remediation work to determine the presence or friability of asbestos. 	<p>Asbestos is a federally regulated substance with applicable federal and state regulations applying to all contractors. The Connecticut Department of Public Health (DPH) is responsible for licensing asbestos contractors and workers.</p> <p>All Federal, State and Local Laws, rules and procedures regarding Asbestos apply to CT WAP.</p> <p>Encapsulation, Enclosure and Avoidance:</p> <p>Limited encapsulation and enclosure of friable PACM or ACM that will be disturbed by the proposed weatherization work can to be paid for utilizing Health and Safety Funds per the Health and Safety Plan</p> <p>Avoidance of non-friable PACM/ACM or PACM/ACM that will not be disturbed by the proposed weatherization work is allowable as long as the occupants are informed of the hazard utilizing the CT WAP Health and Safety Notification Form and the Asbestos Safety Booklet is provided.</p> <p>Remediation</p> <ul style="list-style-type: none"> Remediation of friable PACM or ACM that will be disturbed by the proposed weatherization work can be paid for utilizing WRF. <p>Testing and Assessment</p> <ul style="list-style-type: none"> Assessment, testing, or sampling required as part of asbestos remediation to determine the presence or friability of asbestos is allowable when required as part of compliance. <p>The subgrantee QC and certified contractor must ensure the asbestos related work is in compliance with all applicable</p>	<p>Inspection conducted post encapsulation, enclosure and remediation is completed by the Subgrantee QCI.</p> <p>Post Inspection includes:</p> <ul style="list-style-type: none"> Visual inspection confirming no visible friable PACM/ACM remains in areas that will be disturbed by the recommended weatherization work Energy Audit and Modeling of the conditions in the home post-remediation Blower Door must be run when post, encapsulation, enclosure, or remediation <p>Supporting Documentation</p> <ul style="list-style-type: none"> Verification that all documentation requirements required by the Federal, State and Local Authority Having Jurisdiction have been met by the Asbestos contractor and provided to the occupant and building owner Verification all required health and safety hazard notifications have been issued and testing results to the client and building owner with certification of receipt of the documentation. All the above has been added to the client file in Hancock 	<p>A final pre-weatherization report provided by the Subgrantee QCI must contain the following information:</p> <ul style="list-style-type: none"> Property identification Work dates Areas of residence work occurred Contractor license number(s) and responsible supervisor Approved Estimated Work Scope Completed Scope of Work Quantities (LF/SF) removed/managed including: <ul style="list-style-type: none"> Quantities of friable PACM/ACM that are a barrier to weatherization were encapsulated, enclosed or removed Quantities of non-friable PACM/ACM that are not a barrier to weatherization that were avoided Description of containment and work methodology All assessment, testing or sampling results (attach lab reports and chain-of-custody if sampling performed). Waste shipment documentation summary. Certification that affected area is cleared and safe for subsequent weatherization work Certification from the subgrantee QCI stating all work has been completed and it safe for the weatherization work to continue 	<ul style="list-style-type: none"> Connecticut Department of Public Health (CT DPH) - Asbestos Program U.S. Environmental Protection Agency (EPA) - administers asbestos regulations under AHERA, TSCA, and Clean Air Act (NESHAP), sets asbestos exposure limits and workplace handling requirements (29 CFR 1910.1001 & 29 CFR 1926.1101) Occupational Safety and Health Administration (OSHA) - sets asbestos exposure limits and workplace handling requirements (29 CFR 1910.1001 & 29 CFR 1926.1101). [osha.gov], [econf.gov]
Moisture and Mold	<p>Mold and Moisture sources must be controlled so weatherization measures do not fail and do not worsen indoor environmental conditions.</p> <p>Health and Safety funds may be utilized for visual assessment and diagnostics such as moisture content and Relative Humidity (RH).</p> <p>Weatherization Readiness Funds may be utilized for cleanup and remediation that can not be completed utilizing the Health and Safety funds.</p> <p>Common Barriers and Examples</p> <ul style="list-style-type: none"> Active roof leaks or bulk water intrusion affecting planned insulation/air sealing areas. Visible biological growth in attics/basements that prevents safe work. Chronic high humidity and condensation risks that would compromise insulation or durability. <p>Usually air sealing reduced the moisture by reducing the warm moist air leaking into the area.</p> <p>Contractor Qualifications</p> <p>Connecticut does not generally license "mold contractors" statewide in the same way as asbestos/lead. CT WAP established program minimum qualifications should include:</p> <ul style="list-style-type: none"> Demonstrated experience in residential microbial remediation and moisture control. Recommend training or certifications for supervisory personnel from: IICRC, AMRT, or WRT (or program-approved equivalent). Ability to document moisture diagnostics and source control. 	<p>Required Prior to Approval</p> <ul style="list-style-type: none"> Documentation of the Root-cause identification and corrective plan, prioritizing source control, and confirmation that the proposed scope adequately addresses the underlying moisture condition. Proposed remediation plan limited to the affected areas necessary for weatherization. If ventilation is proposed: document whether it is H&S (existing moisture hazard) or IRM (post-air-sealing ventilation requirement). If located in the attic photos and statements demonstrating if the attic is currently air sealed and if it will be air sealed The Weatherization Readiness Funds Approval Request Form is required for all WRF work related to Mold and Moisture Control <p>Diagnostics</p> <ul style="list-style-type: none"> Visual assessment documenting moisture pathways and biological growth, with photos. Photo documentation, written justification and WRF H&S work scope and projected WAP ECM work. Moisture readings of affected materials and/or RH readings (where applicable). <p>Testing</p> <ul style="list-style-type: none"> DOE funds can not be used to pay for mold testing 	<p>All work related to mold clean-up and moisture control must follow any applicable laws, rules, and procedures established by the federal, state and local authority having jurisdiction</p> <p>All workmanship standards and procedures regarding mold clean-up and moisture control established by a certification entity or CT WAP apply.</p> <p>General Work Guidelines</p> <ul style="list-style-type: none"> Personal Protective Equipment (PPE) requirements (respirators, protective clothing, etc) Implement containment and moisture control appropriate to extent. Remove and discard porous materials with visible growth when required. Clean remaining surfaces using HEPA vacuuming and damp wiping as appropriate. Implement drying/dehumidification where needed. Document moisture readings during drying until acceptable levels are achieved. Do not proceed with insulation until moisture source is controlled with measures such as ventilation and air sealing that is consistent with EPA guidance on controlling air movement and humidity to prevent mold. 	<p>Inspection conducted after mold clean-up and the implementation of moisture control measures is completed by the subgrantee QCI</p> <p>Post Inspection includes:</p> <ul style="list-style-type: none"> Post-remediation verification (PRV) report with visual confirmation. Post-work moisture readings demonstrating materials are dry enough for weatherization. If ventilation installed: verify operation, exhaust to exterior, and compliance with code/AHJ. Mold testing is not allowable utilizing DOE funds. If testing is required the cost must be paid for utilizing an alternative funding source Energy Audit and Modeling of the conditions in the home post-clean up/remediation Blower Door must be run if previous conditions did not allow the blower door to be run <p>Supporting Documentation</p> <ul style="list-style-type: none"> Verification that all documentation requirements established by federal, state or local authorities having jurisdiction have been met upon completion of mold clean-up and moisture control. Verification all required health and safety hazard notifications and testing results have been issued to the client and building owner with certification of the receipt of the documentation All the above has been added to the client file in Hancock 	<p>A final pre-weatherization report provided by the subgrantee QCI must contain the following information:</p> <ul style="list-style-type: none"> Areas assessed and remediated Root cause or source identification and work specifications Pre- and post-photos and moisture readings (and RH where used) Description and quantities of materials removed/cleaned and methods used. Ventilation details, if installed (fan make/model, CFM rating if known, ducting termination, net free area if passive). Statement that the root cause has been corrected, and that the conditions present in the home are conducive to the installation and longevity of the proposed weatherization work 	<ul style="list-style-type: none"> U.S. Environmental Protection Agency (EPA) provides national guidance on mold prevention, moisture control, cleanup, and health-related information. [epa.gov] Centers for Disease Control and Prevention (CDC) provides federal public-health guidance on mold exposure, health effects, and cleanup safety. Connecticut General Statute §19a-111L (State Mold Law Requiring DPH Mold Abatement Protocols). This statute requires CT DPH to publish mold abatement protocols and develop statewide standards for identifying, assessing, and remediating mold in residential housing. https://www.eli.org/buildings/indoor-air-quality/connecticut-general-statutes-ss-19a-111l CT DPH Mold Abatement Guidelines (Referenced in Statute). The statute directs users to CT's updated mold abatement contractor guidelines (PDF). https://portal.ct.gov/-/media/DPH/EHDW/CT-guidelines-for-mold-abatement-contractors_rev12_31_2023clean.pdf Connecticut General Assembly - Mold Laws Background (Supports DPH Guidance Requirement). This document summarizes CT mold laws including the requirement that DPH publish mold abatement guidelines. https://cga.ct.gov/2018/rpt/pdf/2018-R-0233.pdf

Barrier	Weatherization Feasibility and Issue Identification	Pre-Remediation	In-Progress	Post-Remediation Inspection and Energy Audit	Final Closeout / Inspection Report	Resources
Lead	<p>Baseline For pre-1978 housing, DOE WAP requires compliance with EPA Renovation, Repair and Painting (RRP) rules for disturbed painted surfaces unless testing confirms the work area is lead-free</p> <p>DOE Health and Safety Funds cannot be used to pay for lead abatement; only costs directly associated with lead safe work practices for surfaces directly disturbed during weatherization are allowable</p> <p>Weatherization Readiness Funds may be used for lead abatement that presents as a barrier to the proposed weatherization work.</p> <p>Common Barriers and Examples</p> <ul style="list-style-type: none"> The proposed weatherization work will disturb painted surfaces in pre-1978 housing and lead-safe work practices are required. Lead hazards identified during the energy audit or initial site visit cannot be managed within allowable lead-safe practices and would require deferral or non-DOE funded abatement. For lead abatement (where required by law/conditions), use appropriately licensed CT contractors and non-DOE funds unless specifically allowable within the context of Weatherization Readiness Funds. <p>Contractor Qualifications</p> <ul style="list-style-type: none"> For weatherization work that will disturb lead painted surfaces EPA Renovation, Repair and Painting certifications apply such as EPA Certified Renovator and Firm Certification For lead abatement work required for the weatherization work to be completed All Federal, State and Local laws, rules and procedures regarding lead abatement work that must be completed prior to the weatherization work apply to CT WAP: 	<p>Required Prior to Approval</p> <ul style="list-style-type: none"> Documentation that the home is pre-1978 or testing results that verify the presence of lead on surfaces that will be disturbed by the proposed weatherization work Detailed work scope and specifications identifying the weatherization measures that will disturb the lead and work plan identifying painted surfaces to be disturbed and lead-safe controls to be used. Photo documentation of the existing conditions EPA RRP Certified Renovator credentials and firm certification. If lead abatement is proposed utilizing WRF all requirements established by the CT Department of Public Health and CT WAP apply including: <ul style="list-style-type: none"> Written justification for why the lead painted surface or containing material is a barrier to weatherization and cannot be addressed with health and safety funds CT DPH licensure documentation Abatement plan clearance approach The Weatherization Readiness Funds Approval Request Form is required for all WRF work related to Lead clean-up and abatement <p>Testing</p> <ul style="list-style-type: none"> Testing beyond surface testing as described in the EPA RRP Rule is not allowed pre-remediation utilizing DOE funds 	<p>Lead is a federally regulated substance with applicable federal and state regulations applying to all contractors. The Connecticut Department of Public Health (DPH) is responsible for licensing lead abatement contractors and consultants.</p> <p>All Federal, State and Local laws, rules and procedures regarding lead apply to CT WAP.</p> <p>All workmanship standards and procedures regarding lead established by a certification entity or CT WAP apply.</p> <p>General Work Guidelines</p> <ul style="list-style-type: none"> Personal Protective Equipment (PPE) requirements (respirators, protective clothing, etc) Containment, dust control, and cleaning verification consistent with EPA RRP Minimize disturbance of lead containing materials and utilize lead safe weatherization practices Document setup, control, and cleaning protocols with photos. If abatement is required all policies, procedures, licensure and documentation requirements implemented by the Connecticut Department of Public Health apply to all CT Work that disturbs lead. <p>Testing and Diagnostics</p> <ul style="list-style-type: none"> DOE Health and Safety funds can only be used for surface testing as described in the EPA RRP. WRF may be used to pay for testing and diagnostics conducted as part of lead abatement 	<p>Inspection conducted after lead clean-up and abatement is completed by the subgrantee QCI</p> <p>Post Inspection Includes:</p> <ul style="list-style-type: none"> Cleaning verification per RRP for work areas. If abatement performed, clearance testing as required by CT requirements (commonly dust wipe clearance), with lab documentation. Energy Audit and Modeling of the conditions in the home post-remediation if changes occurred that will change the results Blower Door must be run when post remediation or clean-up if it was not run <p>Supporting Documentation</p> <ul style="list-style-type: none"> Verification that all documentation requirements established by federal, state or local authorities having jurisdiction have been met upon completion of lead related work. Verification all required health and safety hazard notifications and testing results have been issued to the client and building owner with certification of the receipt of the documentation All the above has been added to the client file in Hancock 	<p>A final pre-weatherization report provided by the subgrantee QCI must contain the following information:</p> <ul style="list-style-type: none"> Locations of lead containing material disturbed and controls used for containment EPA RRP Certified Renovator Name and Certification number EPA RRP Certified Firm Name and Certification number Lead Safe Clean-Up, Containment, and Disposal verification documentation and photos. If lead abatement work documentation that satisfies the requirements established by federal, state or local authorities having jurisdiction such as CT Department of Public Health including: <ul style="list-style-type: none"> Clearance results Certification of re-occupancy safety 	<ul style="list-style-type: none"> The Connecticut Department of Public Health (DPH) and the federal Environmental Protection Agency (EPA) set forth specific guidelines regarding asbestos management . U.S. Environmental Protection Agency (EPA) enforces the Lead Renovation, Repair and Painting (RRP) Rule under TSCA-U.S. Department of Housing and Urban Development (HUD) publishes the HUD Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing.
Electrical Hazards	<p>Baseline Electrical hazards that create fire/shock risk in areas where weatherization will occur must be addressed. DOE WAP requires over-current protection and damming before insulating knob-and-tube wiring as required by the AHJ.</p> <p>Common Barriers and Examples</p> <ul style="list-style-type: none"> Active knob-and-tube in attics or wall cavities where insulation is planned. Open junction boxes, improper splices, or exposed conductors in work areas. Inadequate over-current protection for existing circuits affecting planned work. <p>Non-barrier: electrical issues outside work area that are not triggered by the measure and do not create a safety risk for workers/occupants within program scope.</p> <p>Contractor Qualifications</p> <ul style="list-style-type: none"> Licensed electrician / electrical contractor in Connecticut. Ability to pull permits and obtain Local Authority Having Jurisdiction inspection approvals. Experience working in occupied residential buildings and coordinating with weatherization scope. 	<p>Required Prior to Approval</p> <ul style="list-style-type: none"> Electrical hazard assessment: <ul style="list-style-type: none"> Detailed work scope and specification clearly identifying components of the electrical system that will create unsafe conditions best course of action based on the proposed weatherization work Photo documentation of present conditions highlighting areas of concern based on the proposed weatherization work Permit plan and anticipated AHJ inspections. 	<p>Electricians must have the proper certifications to complete the electrical work that is related to the provision of weatherization service including all certifications and licensure requirements as specified by the CT Department of Consumer Protection.</p> <p>Work Practices</p> <ul style="list-style-type: none"> De-energize and lockout/tagout as appropriate. Ensure junction boxes are covered; correct hazardous splices in immediate work area. Coordinate sequencing so insulation is not installed until electrical clearance is documented. Remove, abandon, or rework components of a dwelling units electrical system so the weatherization work can be assessed, installed and maintained In case of knob and tube wiring: <ul style="list-style-type: none"> Proposed re-wiring Damming/Clearance approach Or over-current protection plan as determined by the Local Authority Having Jurisdiction and the program scope. 	<p>Inspection conducted after lead clean-up and abatement is completed by the subgrantee QCI</p> <p>Post Inspection Includes:</p> <ul style="list-style-type: none"> Final AHJ electrical inspection approval. Photos of completed work in affected areas. Written electrician certification that areas are safe for insulation/air sealing. Energy Audit and Modeling of the conditions in the home post-remediation if changes occurred that will change the results Blower Door must be run if it was not run prior to the electrical work <p>Supporting Documentation</p> <ul style="list-style-type: none"> Verification that all documentation requirements established by federal, state or local authorities having jurisdiction have been met upon completion of lead related work. Verification all required health and safety hazard notifications and testing results have been issued to the client and building owner with certification of the receipt of the documentation All the above has been added to the client file in Hancock 	<p>A final pre-weatherization report provided by the subgrantee QCI must contain the following information:</p> <ul style="list-style-type: none"> Locations and elements of the electrical system that have been added modified or removed highlighting the final disposition of knob-and-tube wiring (removed/abandoned) Identification and verification of affected circuits or wiring segments and verification that wiring is no longer energized in areas that would create unsafe conditions based on the proposed weatherization work. Permit number and AHJ final approval, where applicable. QCI verification that no active knob and tube wiring remains in contact with installed insulation. Any remaining limitations or areas excluded. 	<ul style="list-style-type: none"> The State of Connecticut Department of Consumer Protection (CT DCP) and Local Authority Having Jurisdiction (LAHJ) . National Fire Protection Association (NFPA) publishes NFPA 70, the National Electrical Code (NEC), the national benchmark for electrical installation safety.