

THE INSPECTION

LEAD INSPECTOR RISK ASSESSOR TRAINING

Your Responsibility for “The Inspection”....

- Identify the source(s) or potential source(s) of lead
 - Including non-environmental sources
- Investigate all accessible areas in the residence
 - Including all exterior structures
- Investigate other residences
 - Other units within building w/child<6
 - Other residences the child frequents
 - Childcare



A Comprehensive Lead Inspection (CLI) must be done when....

- EBLL >20 µg/dL venous
- Two 15-19 µg/dL venous tests taken >90 days apart
 - Shall begin within 5 working days
- Other dwelling unit with child <6 years
 - Must be conducted within 30 days
- Federal Funding Requirement
- Licensure for OEC

CLI Must be conducted by..

Trained Code Enforcement Official (CEO)

- Must be up-to-date with training

Licensed Lead Consultant

- With certified lead inspector or lead inspector risk assessor

Be Prepared.....

- Review Surfaces that you need to test
 - ✓ 19a-111-3(1) (A&B) interior and exterior

- Field kit:

<i>Tool box</i>	<i>Flashlight</i>
<i>Dust wipes with tubes</i>	<i>Camera</i>
<i>Zip lock bags for soil sampling</i>	<i>Tape measure</i>
<i>Water sampling bottles (at least 2)</i>	<i>Tape for template</i>
<i>Labels</i>	<i>Safety goggles</i>
<i>Pens- permanent marker</i>	<i>Gloves</i>
<i>Paint scrapper/ hammer</i>	<i>Spoons</i>
<i>White paper</i>	



- Room Layout Sheets

- ✓ *Interior, exterior, common areas*

- Laboratory Collection Forms

Be Prepared Cont.....

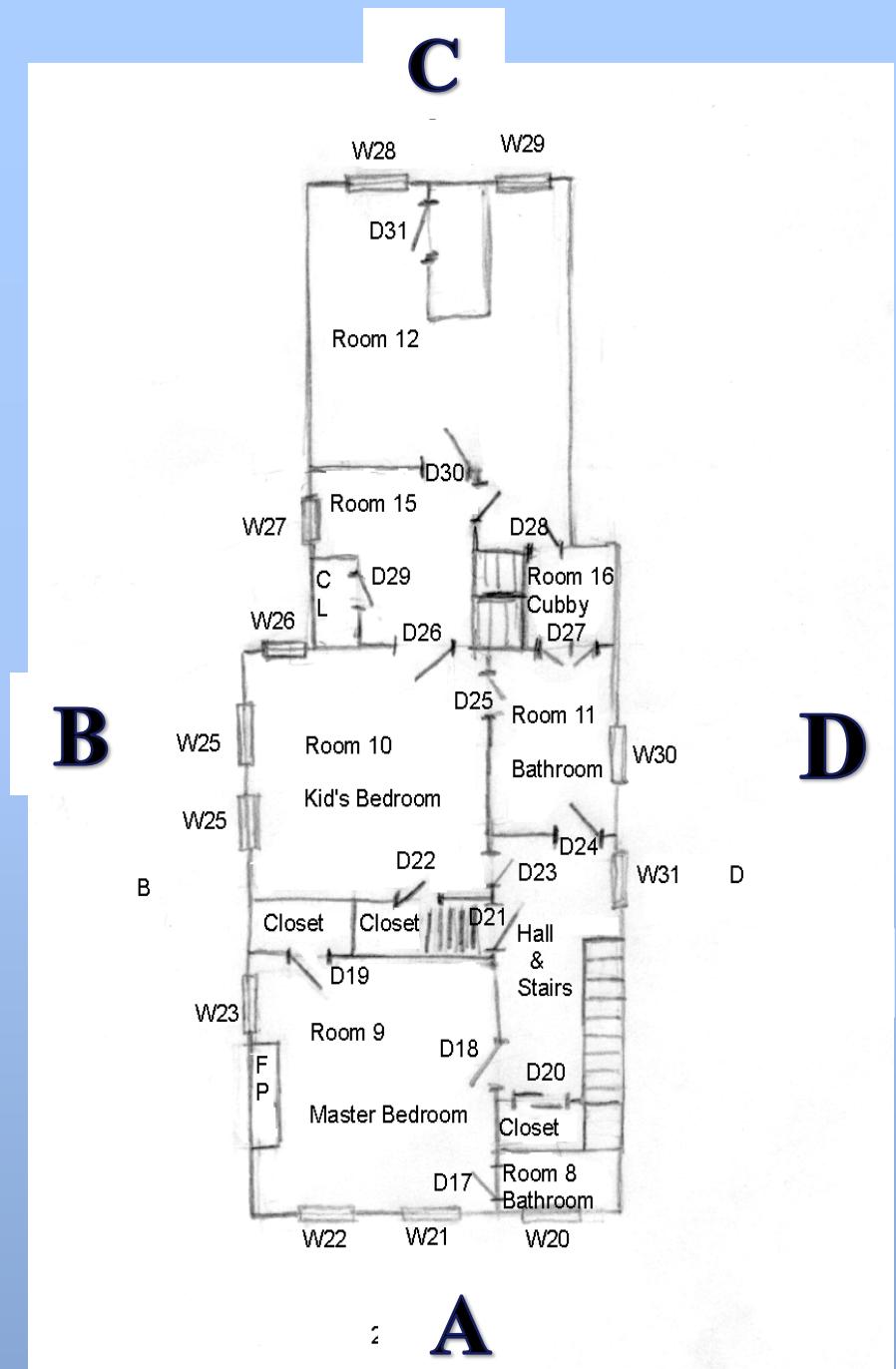
■ XRF

- DPH has 3 (2RMD, 1 Heuresis)
- 3 on loan at Local Health Departments
 1. Meriden (Heuresis)
 2. Stamford
 3. Stratford
- Must be trained in Radiation Safety (web based training)
- Must wear a dosimeter badge
- Make sure battery is charged



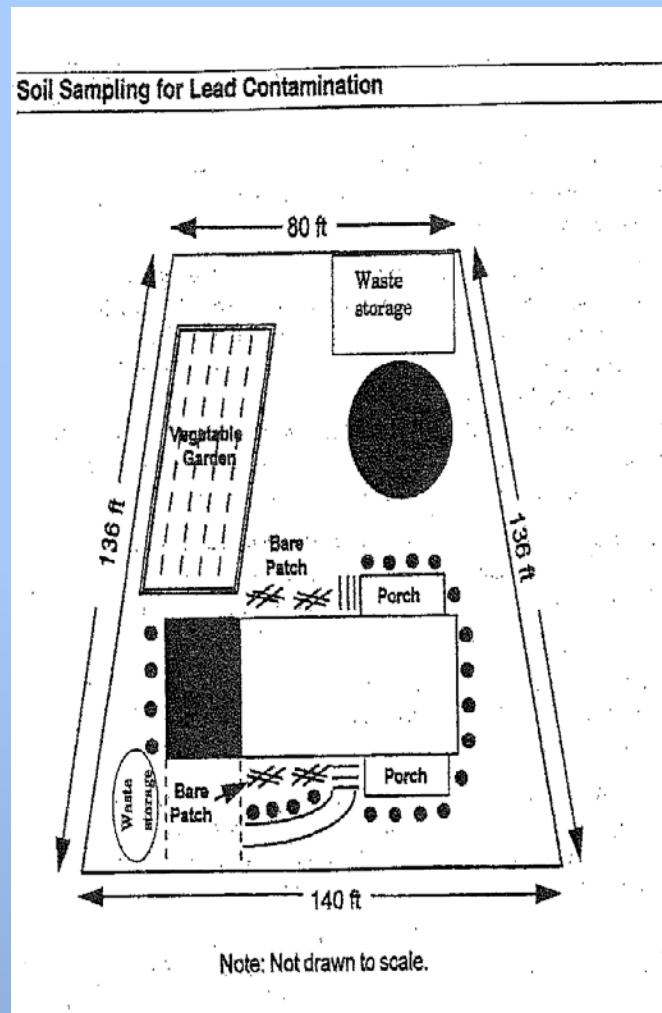
Starting your interior inspection....

- Your safety is priority!!
- Proceed room to room in systematic, orderly fashion
- Show orientation
 - ✓ A, B, C, D
 - ✓ Note locations of doors, windows, closets, stairs
 - ✓ Name & # rooms/areas
 - ✓ Note condition of paint
 - ✓ Note housing issues that need correction prior to Abatement
 - ✓ Don't forget Common Areas



Don't Forget the Exterior....

- Walk/survey the property
- Use A,B,C,D orientation
- Sketch all exterior buildings/structures
 - ✓ *detached garages*
 - ✓ *porch*
 - ✓ *sheds*
 - ✓ *play area/play ground equipment*
 - ✓ *gardens*
 - ✓ *fence*



Soil Sampling

Supplies:

1. Disposable gloves
2. Hard shell containers
3. Labels- marker
4. Lab forms
5. 1 sq/ft. template or ruler
6. Bag for completed samples
7. Bag for trash

Inorganic Chemistry Environmental Lead Examination
Katherine A. Kelley State Public Health Laboratory, 395 West Street, Rocky Hill, CT 06067
Phone Number: (860) 920-6585

Select Water Source
 Public Water Supply
 Private Well

Submitter's Information: Name: _____ Horizon Profile: _____
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

Sample Information:
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

Collector's Information: Name: _____ Title: _____
Date: _____ Collector's Phone Number: _____

TEST REQUESTED

Paint Chips (PB2391-C) Soil (PB2391-S)
 Water (200.8-PB-P) Other

*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***

LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

■ Sample bare soil

-Drip line(usually highest lead levels), Play areas, Gardens, Other bare soil areas

- ✓ Note sample locations on exterior sketch
- ✓ Document sampling methodology (grab vs. composite)

■ Results are reported in ppm or $\mu\text{g}/\text{mg}$

Action/Hazard level:

>400 ppm = control hazard **>5,000 ppm** = permanent abatement method

Soil Sampling Methodology

Two types:

Composite soil sampling

- Multiple grab samples equidistant over an area
- Combine grab samples from one side of the dwelling into one composite
- Use core tool or plastic spoon
- Go to $\frac{1}{2}$ inch deep
- Include paint chips if present
- No more than 10 grabs per composite

Grab sampling

- One sample per sample location
- Use core tool or plastic spoon
- Depth of soil to be sampled: top half inch
- Include paint chips if present



Water Sampling

Supplies:

1. Disposable gloves
2. Water collection container from DPH Lab
3. Labels- marker
4. Lab forms
5. Bag for completed samples



- ✓ Collect when water has not been used for **6 hours**
- ✓ Collect 2 water samples per dwelling
- ✓ Label both water bottles (1st & 2nd draw)

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Submitter's Information: Name: _____ Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)	Horizon Profile: _____		
Sample Information: Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)			
Collector's Information: Name: _____ Title: _____ Date: _____ Collector's Phone Number: _____			
TEST REQUESTED			
<input type="checkbox"/> Paint Chip(s) (PB2391-C) <input type="checkbox"/> Dust Wipe (PB2391-E) <input type="checkbox"/> Soil (PB2391-S)			
<input type="checkbox"/> Water (200-8-PB-P) <input type="checkbox"/> Other			
*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***			
LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

Water Sampling

First draw water sample:

- Collect as soon as water is turned on
 - ✓ Identifies:
 - Premise plumbing (Water service lines within the home)
 - Fixtures



Second draw water sample (flush sample):

- Collect after 2 minutes of flushing
 - ✓ Private wells may need to run water longer
 - ✓ Identifies:
 - Water from exterior service line/well

Action/Hazard level:

$$15 \text{ ppb} = 15 \mu\text{g/L} = 0.015 \text{ mg/L}$$

Dust Wipe Collection..

Supplies:

1. Disposable gloves
2. Wipes – “ghost wipes” preferred
3. Hard shell containers
4. Labels- marker
5. Lab forms
6. 1 sq/ft. template or ruler
7. Masking tape
8. Bag for completed samples
9. Bag for trash

■ Must sample Floor & Window Sill

-Floor:

- ✓ Measure 1 sq. ft, use “S” motion twice, then around entire area

-Window Sill:

- ✓ Record Dimensions
- ✓ Wipe entire area use “S” motion

■ Document/describe location

■ Place in labeled container and submit to lab



Inorganic Chemistry Environmental Lead Examination
Katherine A. Kelley State Public Health Laboratory, 395 West Street, Rocky Hill, CT 06067
Phone Number: (860) 925-6565

Select Water Source: Public Water Supply Private Well

Submitter's Information:	Name: _____	Horizon Profile:	
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code) _____			
Sample Information:			
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code) _____			
Collector's Information:	Name: _____	Title: _____	
Date: _____	Collector's Phone Number: _____		
TEST REQUESTED			
<input type="checkbox"/> Dust Wipe (PB2391-E) <input type="checkbox"/> Soil (PB2391-S) <input type="checkbox"/> Water (200.8-PB-P) <input type="checkbox"/> Other			
*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***			
Laboratory Use Only	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

Dust Wipe Collection 101...

- Always change gloves between sample collection
 - ✓ Do not touch anything other than the wipe and the surface to be sampled
- Fold the wipe completely before inserting it in the tube
- Considering pre-labeling dust wipes tubes
- Clean any templates between sampling locations
- A minimum of 2 unused or blank wipes must be submitted
 - ✓ 1 – 20 dust wipes samples = 2 blanks

Then add + 1 blank wipe for every 20 samples submitted

- ✓ 21 – 40 dust wipes samples = 3 blanks
- ✓ 41 - 60 dust wipes samples = 4 blanks



*MUST include the dimensions of sampling area

Action/Hazard level:

Floors: $\geq 40 \text{ ug/ft}^2$ Interior Window Sills: $\geq 250 \text{ ug/ft}^2$

Paint Chip Sampling...

- XRF results are inconclusive
- No flat surface to test
- XRF instrument won't fit in the area to be tested



Paint Chip Sampling

Supplies:

1. Disposable gloves
2. Labels
3. Hard-shell containers
4. Cutting device
5. Bag for Collection

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Select Water Source
 Public Water Supply
 Private Well

Submitter's Information:	Name: _____	Horizon Profile: _____	
Address:	(Street) _____	(City) _____	
Sample Information:	(State) _____ (Zip Code) _____		
Address:	(Street) _____	(City) _____	
Collector's Information:	Name: _____	Title: _____	
Date: _____	Collector's Phone Number: _____		
TEST REQUESTED			
<input type="checkbox"/> Paint Chips (PB2391-C) <input type="checkbox"/> Dust Wipe (PB2391-E) <input type="checkbox"/> Soil (PB2391-S)			
<input type="checkbox"/> Water (200.0 mg D-P) <input type="checkbox"/> Other			
*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***			
LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

- Document/describe location
- Cut and collect 1-4 sq. inches of paint (sample all layers)
- Place in labeled container and submit to lab
- Inspector must repair surface if it was intact

Action/Hazard Level:

$\geq .5\%$ by weight or 5,000ppm

EPA approved Lead Check Swabs...

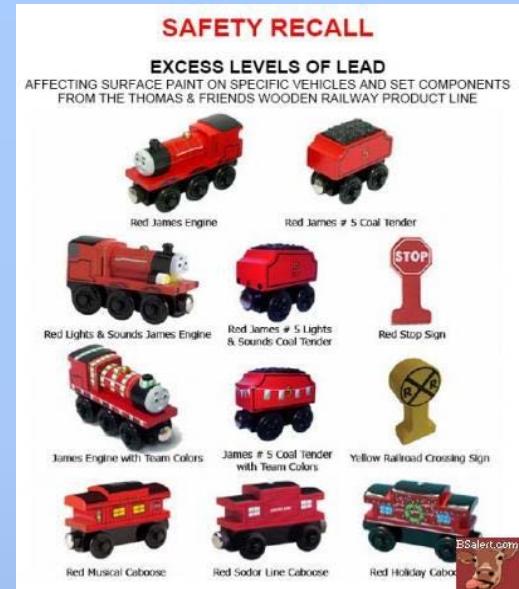
- Are these approved in CT as an acceptable method for testing for the presences of lead?

NO



Other Samples..

- ✓ Spices
- ✓ Pottery
- ✓ Toys
- ✓ Cosmetics
- ✓ Candy
- ✓ Candy wrappers
- ✓ Ayurvedics
- ✓ Hobby supplies



Lab Submission Form

Supplies:

1. Disposable gloves
2. Hard shell containers
3. Labels- marker
4. Lab forms
5. Bag for completed samples

- Call Us
- Description of product
- Obtain original product w/ packaging if possible
- Place in labeled container
- Submit to DPH lab

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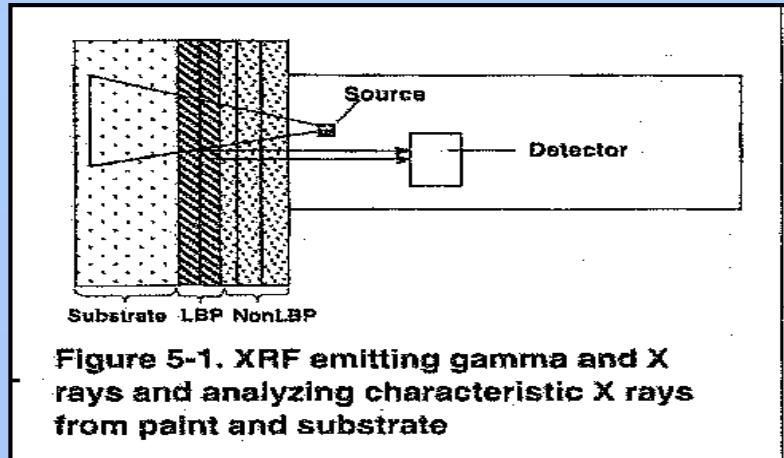
TEST REQUESTED

Paint Chips (PB2391-C) Counter Top (PB2391-E) Soil (PB2391-S)
 Other

*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***

LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

XRF Analyzers 101



- Instrument exposes a painted surface to radiation emitted from a sealed source
- The source is cobalt-57 (^{57}Co)
- ^{57}Co emits energy in the form of gamma rays
- The elements in the paint are “excited” and respond by emitting energy in the form of x-rays, this response is known as fluorescence

XRF Use & Operation (LPA-1 specific)

■ Geiger counter

- take readings before and after use

■ Choose a job number (new unit)

■ Set abatement level (1.0 mg/sq.cm)

■ Calibration: In “*Time Corrected*” mode (select mode)

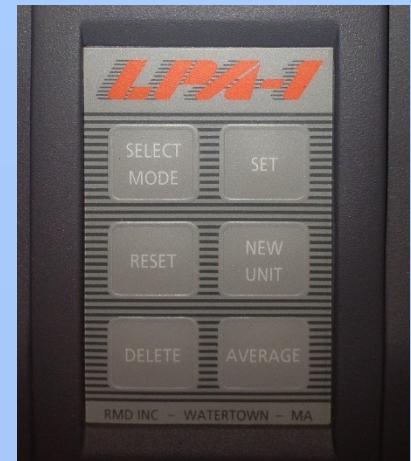
- measure standard calibration block (1.0 mg/sq.cm.) 3 times

- record on data form (.7-1.3 acceptable)

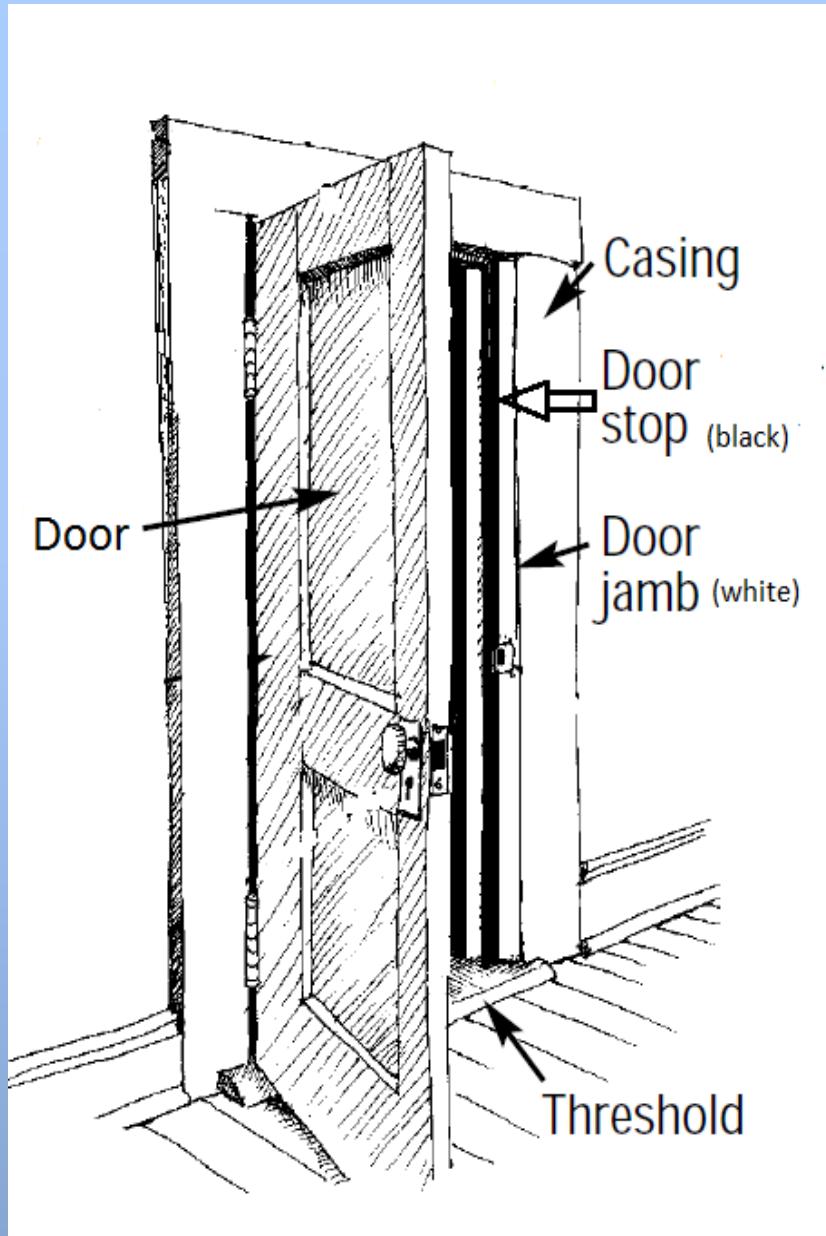
- measure blank side (0.0 mg/sq.cm.) 3 times for reference

■ Go to “Quick” mode (select mode) - complete all measurements

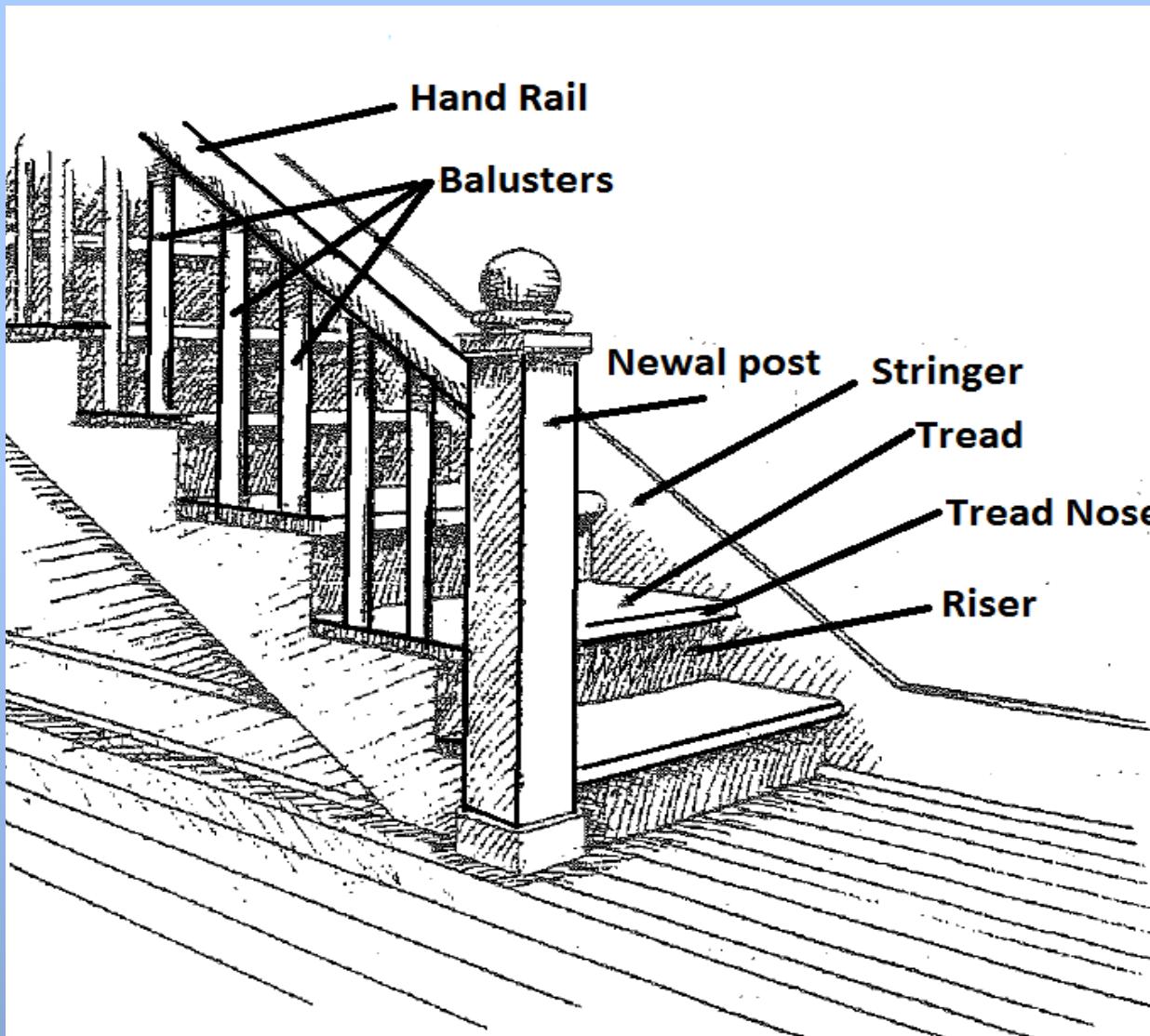
■ Repeat calibration step at end of job and/or every 4 hours



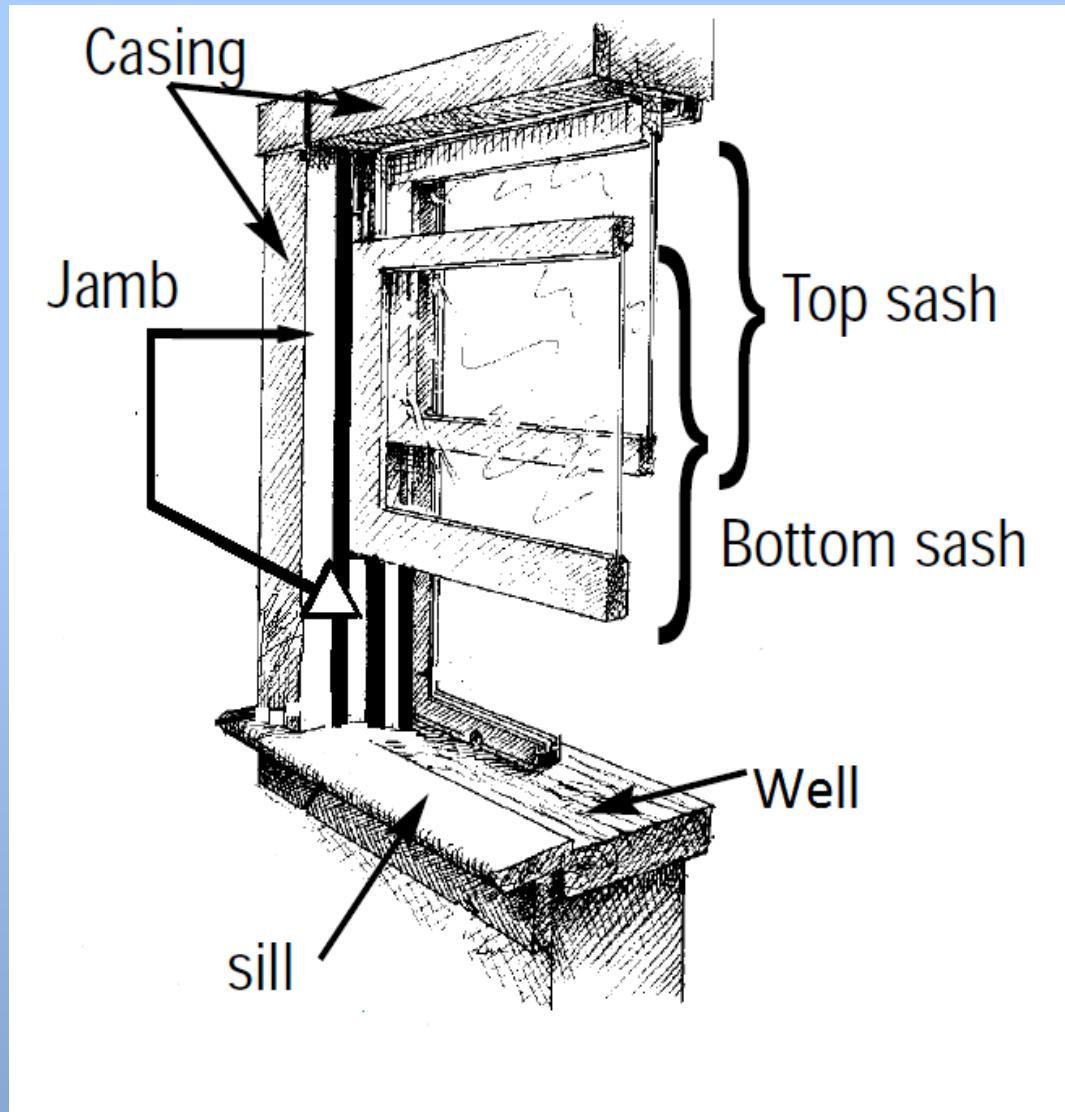
DOOR COMPONENTS



STAIR COMPONENTS

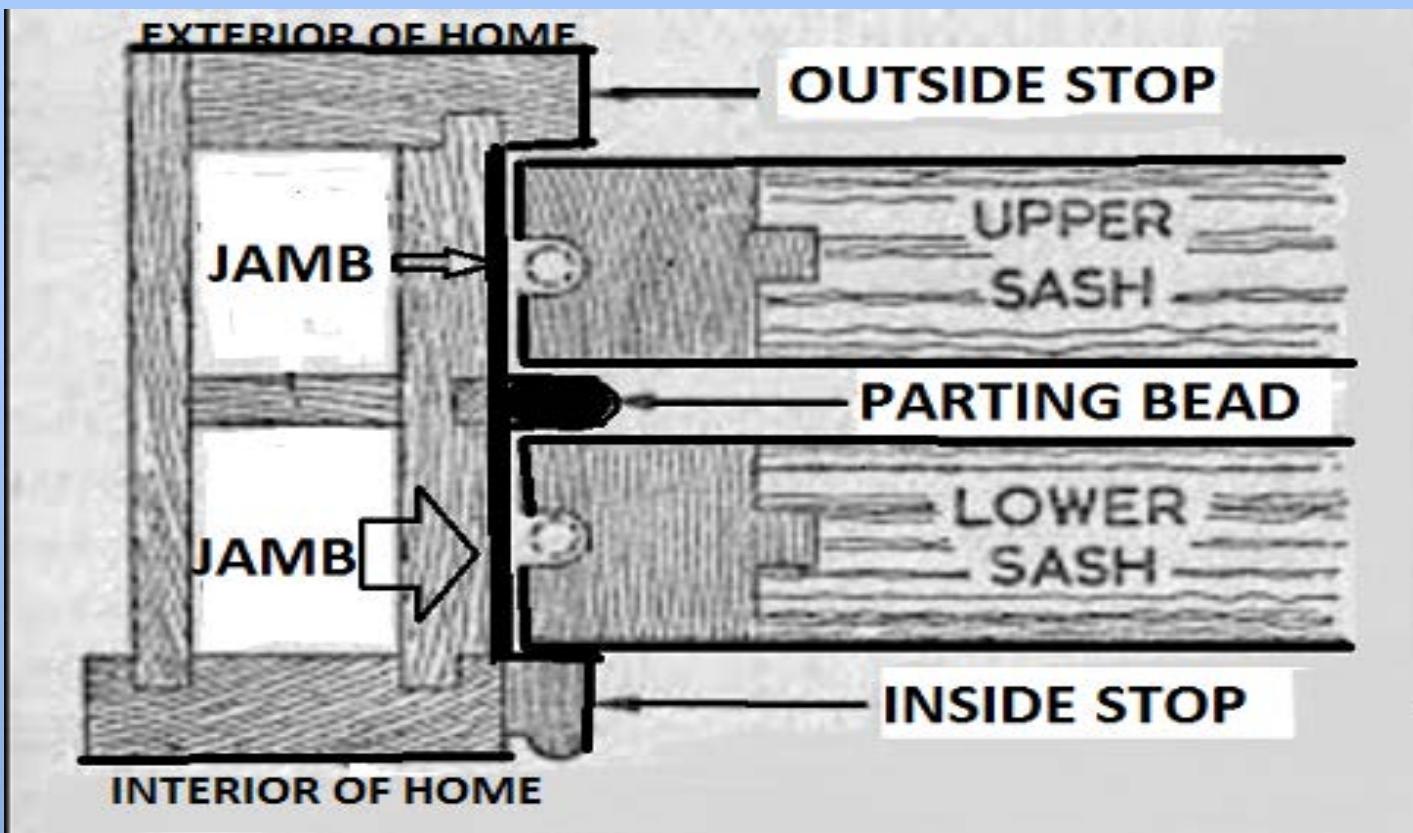


WINDOW COMPONENTS



WINDOW COMPONENTS

CROSS SECTIONAL VIEW OF WINDOW COMPONENTS



Post Abatement Testing:

TYPES OF ABATEMENT:

Replacement of Window/door/trim



Paint Removal

- ✓ Chemical stripping
- ✓ Mechanical stripping
- ✓ Wet scraping
- ✓ Wet sanding
- ✓ Heat gun)



Encapsulations

- ✓ Rigid (enclosure)
- ✓ Cementitious
- ✓ Liquid



Soil 6" of landscaping material

- ✓ Mulch
- ✓ Soil



Soil removal/tiling/mixing

- ✓ Including after exterior work



TYPE OF TESTING:

Clearance dust wipes

XRF testing

Clearance dust wipes

Visual Inspection/Verify depth

Soil sampling and tested

Clearance Standards:

Floors:

$< 40 \mu\text{g}/\text{sq. ft.}$

Window sills:

$< 250 \mu\text{g}/\text{sq. ft.}$

Window wells:

$< 400 \mu\text{g}/\text{sq. ft.}$

Soil:

$< 400 \text{ ppm or mg/kg}$

Lead Abatement Waste Disposal

- Up to 10 cubic yards
 - ✓ Homeowner is allowed to dispose of
- > 10 cubic yards
 - ✓ *TCLP (Toxicity Characteristic Leachate Procedure)*
-determines if waste is hazardous

**Careful handling of all LBP waste is important whether exempt or not*

Hazardous waste:

5 mg/kg, 5 mg/l or 5 PPM

Department of Energy and Environmental Protection Regulation

CT Hazardous Waste:

- Must be shipped/transported by permitted transporters
- Must go to a permitted hazardous waste treatment, storage or disposal facility (TSDF)



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Report an ENVIRONMENTAL Concern/Problem

January Calendar of Events

Laws and Regulations

Information for Transporters

How is waste transportation regulated in Connecticut? The transportation of [hazardous waste](#) and [non-RCRA-Hazardous Waste \(Connecticut Regulated Waste\)](#) is subject to special requirements in Connecticut. In particular, anyone transporting hazardous waste in or through Connecticut must have a permit from DEEP (except a generator transporting 1000 kilograms or less of their own waste to a permitted facility). Also, anyone engaged in the business of transportation of Connecticut-Regulated waste must also have a permit from DEEP pursuant to Connecticut General Statutes (CGS) Section 22a-454.

Permitted Waste Transporters and Facilities Lists of various types of waste transporters and facilities that are permitted by DEEP.

- [Permitted Biomedical Waste Transporters](#)
- [Permitted Hazardous Waste and Connecticut-Regulated Waste Transporters](#)
- [Permitted Spill Cleanup Contractors](#)
- [Commercial Hazardous Waste and Connecticut-Regulated Waste Facilities in CT](#)

Waste Disposal

- ✓ For additional information on hazardous waste handling requirements

**CT DEEP:
Ross Bunnell
860-424-3274**

Hazardous Waste



Dr. Katherine A. Kelley Public Health Laboratory

395 West Street
Rocky Hill, CT 06067

MAIN NUMBER

860-920-6500

FAX

860-920-6710

Sample/Specimen

Receiving

860-920-6680

Outfitting (Supplies)

860-920-6674/6675

