

# Approaches & Resources for Managing Asbestos Containing Building Materials



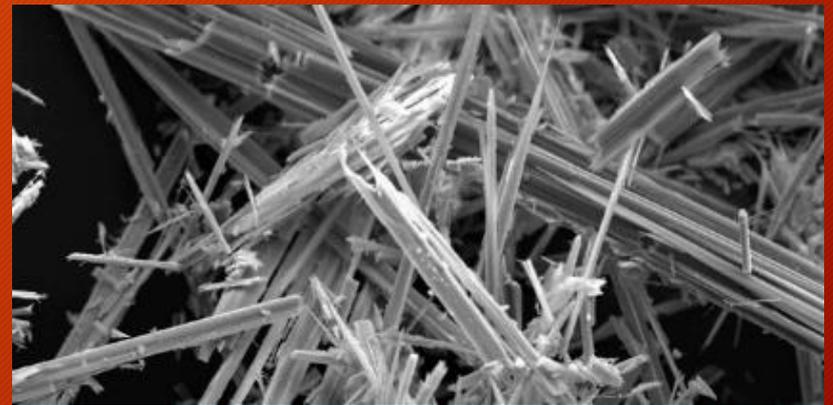
*Washington Brownfields Conference*  
*May 2019*  
*Spokane, WA*  
*Susan Morales, EPA*

# Asbestos Overview & Federal Requirements

- What is asbestos?
- How is it regulated?
- Requirements for Owners & Contractors
- Brownfield Program Resources

# What is Asbestos?

- A naturally occurring mineral.
- Used in many building materials.
- Breaks up into very fine, needle-like fibers.
- A known human carcinogen.



# Asbestos-Containing Building Materials

- About 3,500 materials are known to contain asbestos.
- Some products may *still* contain asbestos (most uses are *not* banned).
- Common examples: pipe insulation, ceiling texture, roofing asphalt, floor tile, cement pipes...

# Asbestos Examples *Can be found in places you don't expect*



# Asbestos Examples

## Molded Pipe Insulation



# Asbestos Examples

Coating on Drywall



Ceiling Texture



# Asbestos Examples

## Mortar and Concrete Mix



Textured Paint

# Asbestos Examples

## Roofing Shingles



## Asphalt Paper



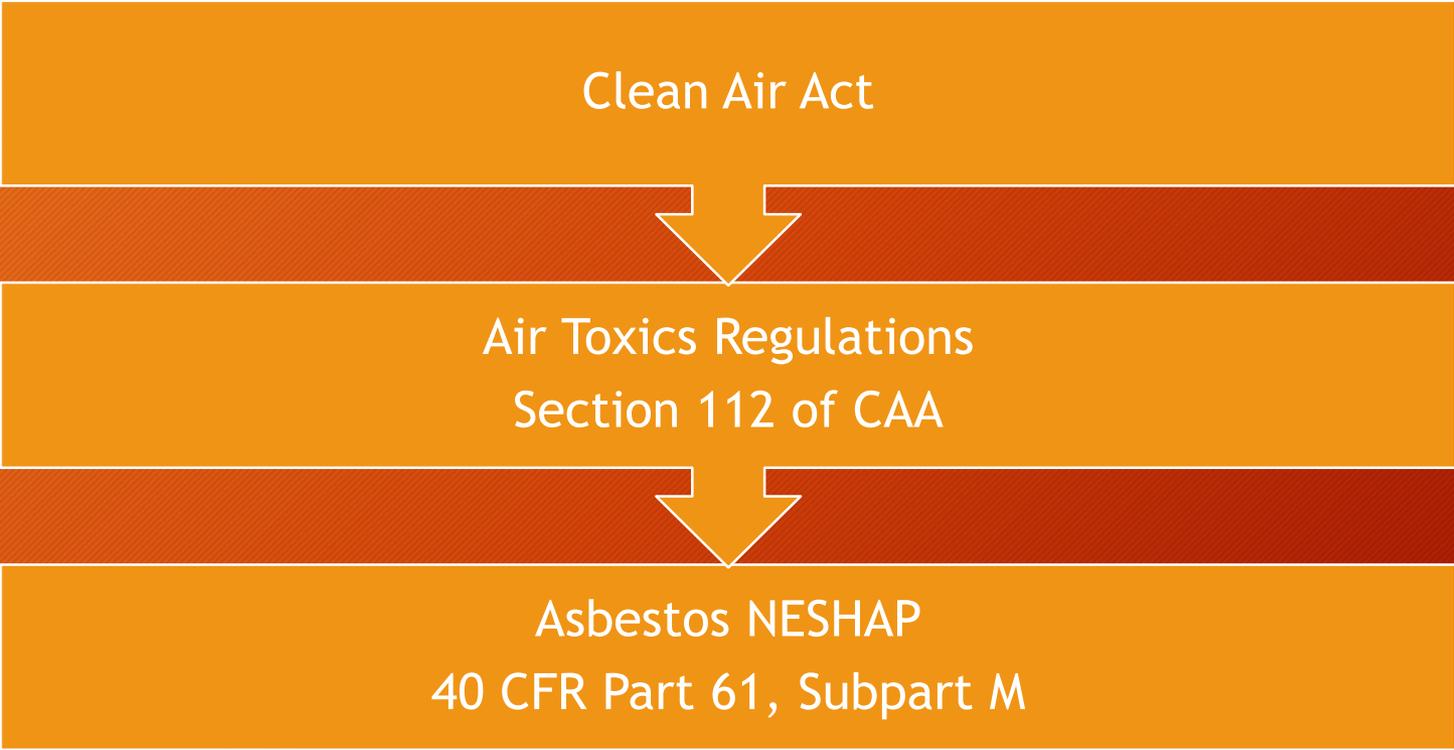
# EPA's Regulations

National Emission Standard for  
Hazardous Air Pollutants  
“NESHAP”

40 CFR, Part 61, Subpart M (Asbestos)

# EPA's Asbestos Regulations

Clean Air Act



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graph TD; A[Clean Air Act] --> B[Air Toxics Regulations  
Section 112 of CAA]; B --> C[Asbestos NESHAP  
40 CFR Part 61, Subpart M];
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Air Toxics Regulations  
Section 112 of CAA

Asbestos NESHAP  
40 CFR Part 61, Subpart M

# EPA Regulates

- Facilities undergoing:
  - All Demolitions
  - Only Renovations that
    - Exceed regulatory thresholds
    - Disturb “friable” materials

# EPA Regulates Facilities

*Facility* means

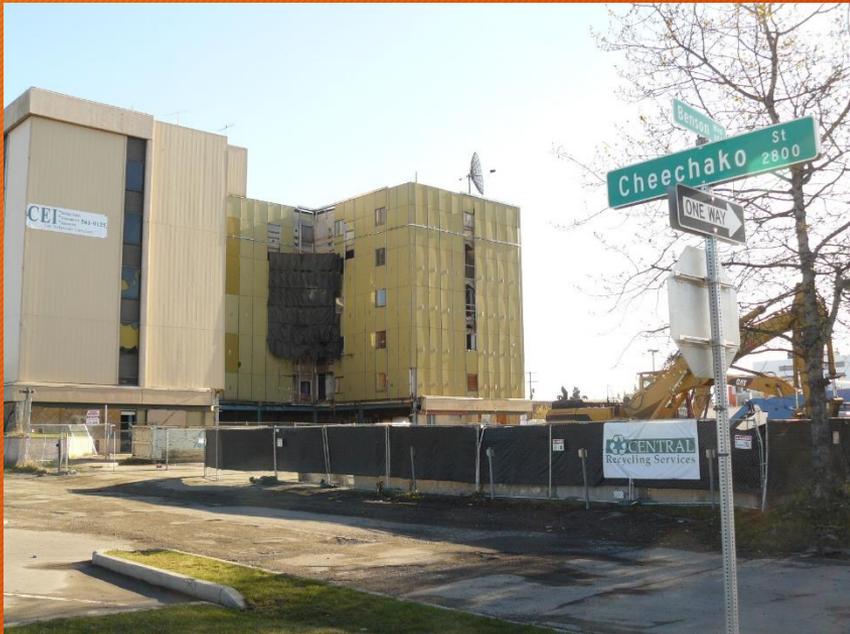
any institutional, commercial, public, industrial, or residential **structure, installation, or building** (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any **ship**; and any **active or inactive waste disposal site**.

# Facility Examples

## Secondary Aluminum Plant Oven Repair



# Facility Examples Hotels



# Facility Examples

## Schools



# Facility Examples

## Landfill Disposal Sites



# EPA Regulates: All Demolitions

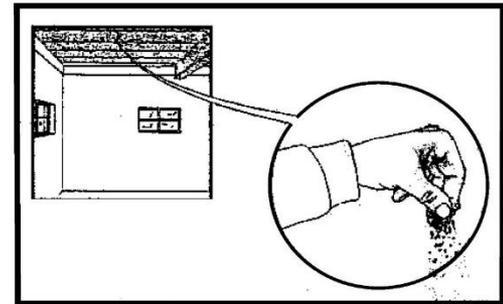


# Unplanned events bring on asbestos demolitions

10/02/14



# EPA Regulates: Renovations w/ Friable Asbestos



Asbestos, when in a dry form which can be crumbled into dust is called "FRIABLE".  
Friable asbestos is dangerous when it is in the air and you breathe it.

# EPA's Regulations - The Way It Should Work

## For Renovations and Demolitions:

- Preparation
  - Survey
  - Notification
- Abatement
  - Keeping It Wet
  - Handling It Carefully
  - Storing It
- Waste Handling and Disposal
  - Transporting It
  - Disposing It
  - Confirming Disposal

# Asbestos Surveys

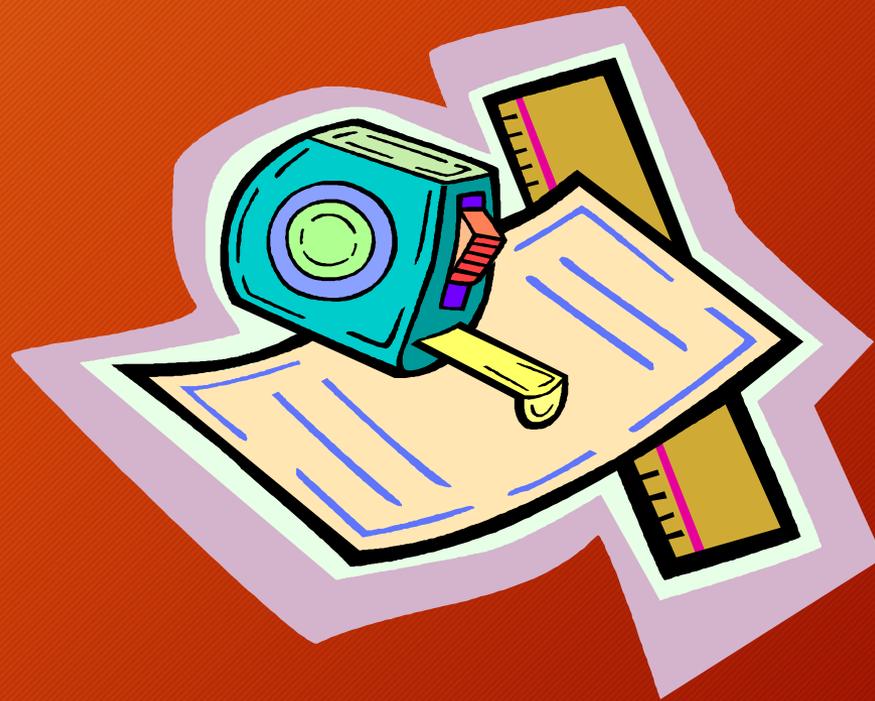
- An inspection must be conducted by the facility owner or operator before a demolition or renovation begins.
- Inspector certification required
  - AHERA “Asbestos Building Inspector”
  - 24 Hour Course, Annual Refresher

# Thorough Survey for Asbestos

- Examines all areas “disturbed” by the demo/reno project, or more.
- Identifies suspect asbestos-containing materials (ACM)
- Measures amounts (linear feet, square feet)

# Q: How Big Does a Job Have to be for EPA Regulations to Apply?

Some Jobs Are Too Small...



# Regulated Amounts (3 Ways to Measure)

- 160 Square Feet

10 ' X 16 '

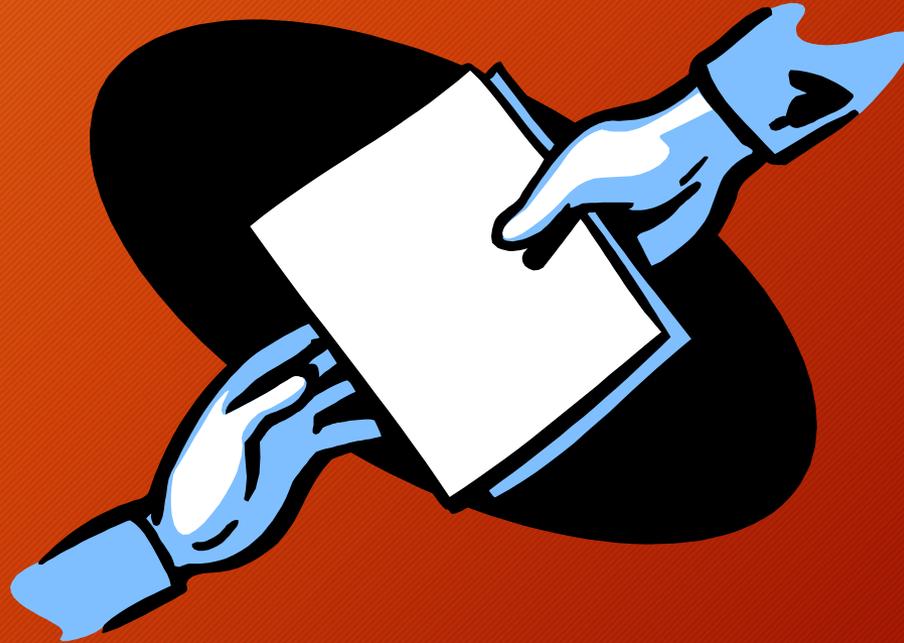
- 260 Linear Feet

- 35 Cubic Feet



# Notifications

- Advance Notice is Required



# Notice Due 10 Days in Advance (Unless it's an Emergency)

http://www.epa.gov/region10/pdf/asbestos/notification-calendar.pdf - Windows Internet Explorer

http://www.epa.gov/region10/pdf/asbestos/notification-calendar.pdf

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Notice mailed

First day work may begin

Downloading (0.69 KB of 10.77 KB) : http://www.epa.gov/region10/pdf/asbestos/notification-calendar.pdf

start Bank 24hrs - Mar... http://www.epa.gov... Microsoft PowerP... Search Desktop 2:10 PM

# Notification to EPA... must include

- Project Location
- Building Description
- How Much Asbestos is There?
- Starting/Ending Dates?
- Contractor Name
- Waste Hauler
- Landfill Location

# Abatement Work Practices

-- Please Be Careful!



# Keeping It Wet

The waste must be kept wet at all times.



Abatement workers apply water before, during and after removing asbestos.

They must wear personal protective equipment.



# Contingency plans

You may have to bring your own water.



# Careful Handling

Do not let asbestos fall to the ground.



# Barriers and signs prevent public access. Visible Emissions Can't Escape the Area



# Waste Disposal

Asbestos waste must be properly

- Contained,
- Stored,
- Brought to a landfill operated in accordance with the asbestos NESHAP.



# What is Asbestos Waste?

- *Asbestos-containing waste materials* means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart.
  - filters from control devices
  - friable asbestos waste material
  - bags/packaging contaminated with commercial asbestos
  - disposable equipment and clothing.

Seal waste bags before bringing them outside the work area.



Bulk Wastes should be placed in lined, secure containers.



# “Glove bags” are Leak Tight Containers for Removing Pipe Insulation



These “super sack” containers are common.



# Storing Waste

Storage containers must be secure.  
This truck can be locked.



# Improper Storage

## Open Dumpster at Shopping Mall



## Air Filters not contained



# Transporting Asbestos Wastes

- No dust should be visible.
- Wastes should be kept wet at all times.



# Disposal

## Asbestos must go to a licensed landfill



# Landfill Management - Restricted Access & Signs



# Waste Disposal Owner/Operator/Hauler

- Discharge no visible emissions
- Adequately wet asbestos containing waste material (ACWM)
- Seal it
- Label it
- Transport in bulk *if* the building was unsound, in danger of collapse.

# Waste Disposal Requirements for Owner/Contractor/Hauler

## Asbestos NESHAP 40 CFR Part 61

§ 61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

# Waste Disposal Requirements for Owner/Operator/Hauler

- Deposit ACWM as soon as practical at a waste disposal site operated in accordance with the provisions of 61.154.
- Mark waste hauling vehicles with asbestos warning signs during loading/unloading.
- Maintain Waste Shipment Records, and provide copy to landfill manager.

# Waste Shipment Records

10-22-'14 97-95 F80a- T-686 P8002/0807 F-153

1. Work site name & address Coker Bay Moose City, WY		Owner name Teton National Park	Owner phone 307-729-4301
2. Operator name & address Coal Bed Creek Construction Dove Creek CO 81324		Operator phone 970-477-2797	
3. Waste Disposal Site (WDS) name, address and physical site location Jefferson County Landfill 1877 N. 800 East Yarnall, ID 83460		WDS phone 208-803-9408	
4. Name and address of responsible agency EPA Region 8 12980 9 <sup>th</sup> Avenue NE Seattle, Washington 98140 <i>CBCI Inc 03087CR2 Dove Creek CO 81324</i>			
5. Description of materials ACM Contaminated Trunkline Pipe	6. Containers No. Type	7. Total quantity m3 (yd3)	
8. Special handling instructions and additional information			
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/typed name & title		Signature	Month Day Year
10. Transporter 1 (Acknowledgement of receipt of materials)			
Printed/typed name & title Coal Bed Creek Construction		Signature	Month Day Year
Mailing address 03087 County Rd 2 Dove Creek, CO 81324		Phone 970-477-2797	
11. Transporter 2 (Acknowledgement of receipt of materials)			
Printed/typed name & title		Signature	Month Day Year
Mailing address		Phone	
12. Discrepancy indication space			
13. Waste disposal site owner/operator: Certification of receipt of asbestos materials covered by this manifest except as noted in 12.			
Printed/typed name & title		Signature	Month Day Year

# Waste Shipment Record (Discrepancy)

# of  
Containers  
?

Quantity of  
Asbestos  
Waste?

5. Description of materials	6. Containers No.            Type		7. Total quantity m3 (yd3)
ACM Contaminated			
Transite Pipe			
8. Special handling instructions and additional information			
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulation.			
Printed/typed name & title	Signature	Month    Day    Year	
10. Transporter 1 (Acknowledgement of receipt of materials)			
Printed/typed name & title Coal Bed Creek Construction	Signature	Month    Day    Year	
Mailing address 03037 County Rd 2 Dove Creek, CO 81324		Phone 970-677-2797	

Signature  
s?

# Inspection Photos

- What does each photo tell us about compliance?



# Visible Emissions (Dust) Prohibited



# Demo Next Door to Senior Center - public exposure concern



# EPA R10 Inspection Samples Had 40 - 80 % Asbestos



# Condo Ceiling Texture Fell to Floor, Left Behind by Contractor



# Waste Container Not “Leak Tight”



# Air Monitors Detect if Asbestos Dust Is Present



# Demo Contractor Believed Building was Asbestos Free



Oops! - There still is some asbestos in here.



# Hotel Demolition

- Asbestos Not Removed Prior to Demo
- Public Exposure Concern



# Thrift Store Flooring Renovation Gone Wrong



And threw the debris in the parking lot where it was broken up, creating RACM.



# Compliance and Enforcement

- Enforcement authority under the Clean Air Act.
- Violations subject to penalties of up to \$37,500 per day, per violation.
- Administrative Actions
- Civil Actions
- Criminal Prosecution

# Brownfields

## Can Asbestos be addressed under EPA Brownfields?

- CERCLA legislation includes a definition of brownfield that includes properties contaminated with:  
“Hazardous Substances, Pollutants, & Contaminants”
  - ★ Hazardous Substances
  - ★ Petroleum Contamination
  - ★ **Asbestos** & Lead Paint
  - ★ Controlled Substances (e.g., Meth labs)
  - ★ Mine-Scarred Lands
  - ★ Other environmental contaminants

# Brownfields

Asbestos can be addressed under EPA  
Brownfields except when...

- It is friable

# Brownfields

## What about demolition to remove threat of asbestos?

- In instances where asbestos can not be solely abated, demolition may be eligible under cleanup grants.
- Then it's removal of hazardous wastes

# Types of Activities Supporting Brownfield Projects

- Inventory of brownfield sites
- Phase I Environmental Site Assessments
  - Site background research/past uses
- Phase II Environmental Site Assessments
  - On site sampling and lab analysis
- Cleanup Planning (including cost estimates)
- Confirmation Sampling
- NHPA/Cultural Resources Assessments
- ESA review
- Visioning
- Project finance planning

# Brownfield Grants & Technical Assistance

## *Grant Types:*

- Assessment – Environmental Investigations
- Revolving Loan Fund (RLF)
- Cleanup
- Environmental Workforce Development and Job Training (EWDJT)
- State and Tribal Response – offers Brownfield site assistance
- Multi-Purpose Grants – Planning, Assessment, and Cleanup
- Research, training, and technical assistance
  - Technical Assistance to Brownfields Communities (TAB)



WA Dept. of Commerce -  
see Tina



WA Ecology

## *Technical Assistance:*

- EPA Targeted Brownfields Assessment (TBA)
- Other Technical Assistance Support - EPA Technology Support Center & Innovation Programs, Technical Assistance to Brownfields

# EPA Region 10

Asbestos

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[www.epa.gov/asbestos](http://www.epa.gov/asbestos)

Brownfields

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<https://www.epa.gov/brownfields/brownfields-and-land-revitalization-washington-idaho-oregon-and-alaska>

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