EBC Site Remediation & Redevelopment Program

Managing the Diversity of Asbestos-Containing Materials (ACM)
Welcome

Jackson Bailey

Communications & Marketing Coordinator

Environmental Business Council
Program Introduction & Overview

Matt Preston

Program Co-Chair and Moderator

Director of Business Development

EnviroVantage
EBC Site Remediation & Redevelopment Program:
Managing the Diversity of Asbestos Containing Materials (ACM)
June 14, 2018

Panel Speakers:
Tim Hunt, Asbestos Designer/Safety Director, W.L. French Excavating Corporation
Curt Knightly, Vice President, Compliance, EnviroVantage, Inc.
Gregg Levins, Section Chief, Asbestos Program & Environmental Strike Force, Central Region, MassDEP
Paul Locke, Assistant Commissioner, Bureau of Waste Site Cleanup, MassDEP
Marc Richards, P.E., LSP, Vice President, Environmental, Tighe & Bond
Dan Walsh, Senior Project Manager, Environmental, W.L. French Excavating Corporation

Program Co-Chairs:
Lisa French Kelley, Principal, W.L. French Excavating Corporation
Matt Preston, Director of Business Development, EnviroVantage, Inc.
Overview of Massachusetts Asbestos-Containing Materials (ACM) Regulations

Paul Locke
Assistant Commissioner
Bureau of Waste Site Cleanup
MassDEP

Gregg Levins
Section Chief
Asbestos Program & Environmental Strike Force
MassDEP
MassDEP Asbestos Regulation (310 CMR 7.15)

EBC Site Remediation and Redevelopment Program

Managing the Diversity of Asbestos-Containing Materials (ACM)
*Identify, Assess, Remove & Dispose – Applying Means, Methods, Regulations & Compliance*

Thursday, June 14, 2018

E. L. Harvey & Sons, Inc.
68 Hopkinton Road
Westborough, Massachusetts
What is asbestos?

- Widely used naturally occurring fibrous mineral.
- Resistant to heat and corrosive chemicals.
- Fibers range from long and flexible to straight and needle like.

When mishandled, it breaks into tiny, sharp fibers. You cannot taste, feel or see them.
When **is asbestos most dangerous?**

- **WHEN IT IS AIRBORNE.** When you breathe it, it can easily get into the lungs and your digestive system.

- If you handle asbestos it can become airborne (especially when subject to sawing, sanding, drilling, grinding or abrading).

- Once in the air, asbestos fibers can stay suspended in the breathing zone for 48 hours or more.

- Asbestos fibers freely move on any draft of air.
Asbestos-related diseases

- Asbestosis
- Lung Cancer
- Possible gastro-intestinal cancers from ingestion
- Mesothelioma
Asbestos Regulation Revisions  
(310 CMR 7.00 and 7.15)

• Took effect on June 20, 2014  
  – Amended definitions (310 CMR 7.00)  
  – Revised & replaced Asbestos Regulation (310 CMR 7.15)

• Goals:  
  – Clarify definitions and requirements  
  – Codify material-specific work practices  
  – Better align with EPA Asbestos-NESHAP
What Stays the Same?

- **Performance standards:**
  - Prevent air emissions
  - Protect public health, safety, and environment

- **Program structure:**
  - **Notification** prior to work
  - **Asbestos abatement** work practice standards
  - **Asbestos-containing waste material** must be properly managed

- **DLS requirements have not changed:**
  - Worker qualifications/training
  - Work practices/worker safety
  - Final clearance monitoring
What’s New? (1 of 2)

• **Pre-Demolition/Renovation Survey**
  – Identify all asbestos containing material (ACM) and Suspect ACM

• **Notification Exemptions**
  – Small jobs on cement shingles & siding, floor tiles, and wallboard/joint compound (non-friable ACM only)
  – Homeowner working on non-friable ACM in own home
  – **All jobs must follow applicable work practices**

• **Material-specific work practices**
  – Asphalt roofing, window caulking, cement shingles, floor tile, gypsum wall-board
What’s New? (2 of 2)

• **Non-Traditional Asbestos Abatement Work Practices (NTs) Permits**
  – Formal permit to conduct “alternative work practices”
  – Only allowed in six specific scenarios

• **Post-Abatement Visual Inspection**
  – Required at end of asbestos work
  – Ensures that no visible ACM debris remains

• **Waste Shipment Record (WSR) Forms**
  – Aligns with EPA NESHAP

• **Record-keeping requirements**
  – Owner/operator to maintain pre-demo/reno survey and WSR for minimum of 2-years
Pre-Demo/Reno Survey

• Identify and properly manage materials that contain asbestos

• Required before **ANY** demolition/renovation project
  – Exception: Owner of a single-family house conducting work on non-friable asbestos themselves in the home they live in

• **DLS-certified Asbestos Inspector** must conduct **“thorough”** inspection
  – Identify all material containing asbestos in any amount (including <1%) in area to be worked on
  – Destructive survey (wall cavities, floor layers, above ceilings)
  – Use of approved analytical methods

• Keep the Survey Report for at least two years
Material Containing < 1% Asbestos

• Must be identified in the pre-demo/reno survey
• ACWM includes material containing any amount of asbestos (even <1%)
• If material with any asbestos gets mixed with non-asbestos C&D, all must be handled as ACWM
• Segregate, manage separately to reduce disposal costs
  ➢ e.g. for wallboard/joint compound removal;
    cover surfaces that will not be removed
    place poly on floor under work area;
    adequately wet material prior to, and all during removal;
    immediately package in sealed, labeled leak-tight containers
Where is asbestos found?

• Friable:
  – Sprayed on, or troweled on, decorative plaster
  – Sprayed on fire proofing
  – Pipe and boiler insulation
  – Duct insulation
  – Suspended ceiling tiles
  – Wallboard and joint compound
  – Some attic/wall insulation (such as vermiculite or sprayed on)
  – Fire rated doors

• Non-friable
  – Floor covering (e.g. floor tiles and linoleum backing)
  – Mastic (damp proofing)
  – Caulking and glazing
  – Roofing felts and shingles
  – Fire rated drapes and curtains
Asbestos Product Bans

• 1970’s EPA banned certain uses; and CPSC banned certain products:
  – Spray applied fireproofing/insulation (NESHAP)
  – Spray applied surfacing materials (NESHAP)
  – Asbestos pipe insulation and asbestos block insulation on facility components, such as boilers and hot water tanks (NESHAP)
  – Asbestos in artificial fireplace embers (CPSC)
  – Asbestos in wall patching compounds (CPSC)

• 1989: TSCA banned manufacture, importation, processing and distribution in commerce of most asbestos products

• 1991: 5th Circuit Court of Appeals vacated TSCA Rule; most of original ban overturned, except
  – Corrugated paper
  – Rollboard
  – Commercial paper
  – Specialty paper
  – Flooring felt
  – New uses

Reference: https://www.epa.gov/asbestos/us-federal-bans-asbestos
Asbestos products not banned

The manufacture, importation, processing and distribution in commerce of these products are **not banned** (partial list):

- Cement corrugated sheet
- Cement flat sheet
- Clothing
- Pipeline wrap
- Roofing felt
- Vinyl floor tile
- Cement shingle
- Millboard
- Cement pipe
- Automatic transmission components
- Clutch facings
- Friction materials
- Disk brake pads
- Drum brake linings
- Brake blocks
- Gaskets
- Non-roofing coatings
- Roof coatings
- Adhesives/mastics

Reference: [https://www.epa.gov/asbestos/us-federal-bans-asbestos](https://www.epa.gov/asbestos/us-federal-bans-asbestos)
Boiler Insulation

("Snowman Boiler")

Courtesy of Maine DEP
Pipe Insulation

Courtesy of Maine DEP
Decorative Plaster

Sprayed on fireproofing

Courtesy of Maine DEP
Flexboard (Transite panel)

Mastic

Courtesy of Maine DEP
Suspended Ceiling Tiles

Suspended Ceiling Tiles

Courtesy of Maine DEP
GLUE DAUBS
Vermiculite Attic Insulation ("Zonolite")

Courtesy of Maine DEP
Window caulking & glazing
Damp proofing on foundation & concrete block walls
FIRE DOORS
Asbestos Cement Corrugated Panels & Pipe
“Spiral” of Non-compliance

- Failure to perform thorough asbestos survey is often first step down a path of non-compliance
- Cleanup of non-compliant activities requires NT Work Plan
  – project delays and increased project costs
- All affected C&D debris must be disposed as ACWM
- Occupants often must be relocated during decon
- Civil administrative penalties may be imposed
- AG may seek civil or criminal charges
Liability extends to any and all parties who control activities

- OWNER/OPERATOR means any person who:
  (a) has legal title, alone or with others, of a facility or dumping ground;
  (b) has the care, charge, or control of a facility or dumping ground, or
  (c) has control of an asbestos abatement activity, including but not limited to contractors and subcontractors. (310 CMR 7.15(1) Definitions)

- Includes property owners, asbestos contractors, general contractors, demolition/renovation contractors, subcontractors
Referral to Attorney General’s Office

• Certain cases are screened for referral to Attorney General's Office
• Criteria for referral to AGO:
  – Magnitude of exposure (general public, environment & penalty)
  – Deliberate and/or willful intent
  – Knowledge (i.e. party knows or should have known)
• AGO can pursue civil or criminal enforcement
• AGO not bound by MassDEP penalty assessment schedule
  – Can assess penalties as allowed by statute – up to $25,000 per day per violation
Asbestos Project Look-up Tool

https://eeaonline.eea.state.ma.us/portal#!/search/asbestos
For More Information:

• MassDEP Asbestos Regulation – June 2014:  
  – Questions about Asbestos Regulations and Policy: Mike Elliott, email:  
    michael.elliott@state.ma.us, telephone: 617/292-5575

• Regional MassDEP Asbestos Contacts:
  – Central: Gregg Levins (gregory.levins@state.ma.us, 508/767-2768)  
  – Northeast: John Macauley (john.macauley@state.ma.us, 978/694-3262)  
  – Southeast: Cynthia Baran (cynthia.baran@state.ma.us, 508/946-2887)  
  – Western: Marc Simpson (marc.simpson@state.ma.us, 413/755-2115)

• Find your region:  
  https://www.mass.gov/service-details/massdep-regional-offices-by-community

• Asbestos Project Lookup Tool:  
  https://eeaonline.eea.state.ma.us/portal#!/search/asbestos

• MassDEP Asbestos Website:  
  http://mass.gov/dep/asbestos
EBC Site Remediation and Redevelopment Program
Managing the Diversity of Asbestos-Containing Materials (ACM)

Overview of Massachusetts Asbestos-Containing Materials (ACM) Regulations (Part 1)

Paul W. Locke
Assistant Commissioner
MassDEP BWSC
Paul.Locke@state.ma.us
617-556-1160

June 14, 2018
Applicable BWSC Regulations for Asbestos in Soil

• MCP: 310 CMR 40.0300
  – Asbestos is listed Hazardous Material
    Massachusetts Oil and Hazardous Materials List, “MOHML”) 
  – Reportable Quantity: 1 lb
    (2 HR Notification)
  – Imminent Hazards
    (2 HR Notification)
  – 310 CMR 40.0370: Achieve “No Significant Risk” even in not notifiable
Waste Site Cleanup

- Emergency Response
- Risk Reduction
- Audits
- Brownfield Assistance
- Enforcement
- Compliance Assistance
- Asbestos ???
AIS Monitoring/
Risk Characterization Challenges

• Lack of a reliable method that predicts concentrations in air from concentrations in soil
• Collection of representative samples
• Lack of a standard/reliable method for soil – EPA/600 method for bulk materials
  • Lack of health info. correlating soil to air/breathing space
Practical Solutions

• RAM process can incorporate NTWP process

• Residual can be managed under the MCP with cap/Activity & Use Limitation (AUL)

• Use of Activity Based Sampling (per USEPA Framework for Investigating Asbestos-Contaminated Superfund Sites)
“Laboratories of Democracy”

is a phrase popularized by U.S. Supreme Court Justice Louis Brandeis to describe how a

"state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."
“Laboratories of Environmental Protection”

is a phrase that has not yet been popularized by anyone to describe how a

“Region may, if its staff choose, serve as a laboratory; and try novel policy and administrative experiments without risk to the rest of the Department.”
WERO: Asbestos into Emergency Response

• Pilot Project – Moved to ER 2.5 years ago
• 2 specialized asbestos staff, along with 3 ER staff
Asbestos

• Brownfields technical assistance, support and coordination

• ER staff involved

• Asbestos staff responding
Asbestos – FY2017 WERO Activity

- 4,582 Asbestos Notifications Received
- 507 Total Primary Inspections
- 55 Non Traditional Work Plan Permit approvals
- 14 NONs, 6 ACOPs, 1 PAN
- $92,885 in assessed penalties
Asbestos – FY2017 Activity

• Technical assistance – pre-permitting, field
• Complaint investigation
• Reduced paperwork and streamlined permit reviews
Case Studies

• Parson’s Paper Site – Holyoke
• Western Massachusetts Hospital – Westfield
• Former Crane Paper Site – Indian Orchard, Springfield
Former Parson’s Paper Redevelopment

- Founded 1853, closed 2005 and burned 2008
- 5,000 yd$^3$ rubble – co-mingled ACM
  - EPA removal action ACM – 2009, $1$MM
  - 2014 – Aegis Energy Service, Inc. interest
Former Parson’s Paper Redevelopment

- City utilizes MassDevelopment $3MM in public funds invested total
Former Parson’s Paper Redevelopment

- 5,400 tons of debris removed and disposed of as ACM at $150/ton
- $500,000 in remaining funds
- Mostly brick material
  - post EPA abatement
Former Parson’s Paper Redevelopment

- BUD for non-impacted buildings
- Hybrid solution with ACO – Asbestos NTWP, 21E Asbestos-in-Soil Approach
- Remaining material properly managed, then consolidated and capped – AUL
Chief Medical Examiners Office, Westfield

- Western Mass Hospital site – 5.5 acres
- Construction of a new Chief Medical Examiner building adjacent to hospital
- Historic demolition debris buried onsite – discovery in April 2017 of transite pieces in stockpiled soil
Chief Medical Examiners Office, Westfield

• NTWP to manage the soil and dispose off-site
• Further discovery of additional material including friables from excavation of a former steam tunnel – significant cost increases
  • Alternative method was needed
Chief Medical Examiners Office, Westfield

- Aug 2017 – MCP pathway
- LSP oversight and NTWP amendment
- Handling and placement of AIS on-site under a capping system – approx. 2,000 yd$^3$ soil
- Capping of additional known areas
- AUL placement
Former Chapman Valve/Crane Co. Site, Indian Orchard, Springfield

• 16 acre site (originally 54 acres)
• 1874 - Chapman Valve Manufacturing Company
• 1959 - 1980s - Crane Company
• 12 factory buildings demolished by 1996
• 2006 – OHM contamination discovered, addressed by 2009
  • 2010 – 30,000 yd$^3$ of debris with asbestos containing material characterized
Former Chapman Valve/Crane Co. Site, Indian Orchard, Springfield

- 2011 – MassDEP brings in U.S. EPA
- Implementation of Activity Based Sampling for trespassing scenario
- ABS – personal monitoring, more representative of actual exposure
Former Crane Site, Indian Orchard

• Three personal sampling areas
• One person conducting an activity for approximately 100 minutes throughout the area
• Wore a backpack containing one high volume and one low volume air sample pump
  • Air sample pumps in perimeter locations
  • Results – no asbestos fibers detected in air samples
Waste Site & Reportable Releases Information

Related Links:
- Site Number: 1,0014340
- Site Name: N/A
- Site Location: N/A
- Category: N/A
- Subcategory: N/A
- Source: N/A
- Release Date: N/A
- End Date: N/A
- Emission Date: N/A
- Duration: N/A
- Volume: N/A
- Concentration: N/A
- Location: N/A

Response Action Information

<table>
<thead>
<tr>
<th>RESPONSE ACTION TYPE</th>
<th>START DATE</th>
<th>SUBMIT ALARM DATE</th>
<th>REPORTED ACTION</th>
<th>CERTIFIED</th>
<th>AMOUNT</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAD Type 1</td>
<td>22/04/2011</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>RAD Type 2</td>
<td>04/05/2011</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>RAD Type 3</td>
<td>05/05/2011</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

LSPs

<table>
<thead>
<tr>
<th>LSP</th>
<th>LEP</th>
<th>LEP Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

RAD Detail

<table>
<thead>
<tr>
<th>CLASS</th>
<th>NLDG</th>
<th>PDG</th>
<th>DNG</th>
<th>SQG</th>
<th>SQG CATEG</th>
<th>SQG CATEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
</tr>
</tbody>
</table>

The Classification Detail

<table>
<thead>
<tr>
<th>RND</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>IX</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>42</td>
<td>87</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

https://eeaoonline.eea.state.ma.us/portal#!/wastesite/1-0014340
Original Presentation:
Eva Tor
Deputy Regional Director
Bureau of Waste Site Cleanup
MassDEP Western Regional Office
Eva.Tor@state.ma.us
413-755-2295

Adapted/Adopted By:
Paul W. Locke
Assistant Commissioner
MassDEP Bureau of Waste Site Cleanup
Paul.Locke@state.ma.us
617-556-1160
Commercial Property Expansion / Renovation - Asbestos in Soil

Moderator: Curt Knightly, EnviroVantage

Panelists:
• Tim Hunt, W.L. French Excavating Corp.
• Marc Richards, Tighe & Bond
CASE 1: Commercial Property Expansion: Asbestos in Soil

- Commercial Industrial Building – Inside Rt. 128
- 1940’s Building
- 17,300 square feet
- Single story manufacturing, 2nd story office
- Former manufacturer used Asbestos in their product
  - Known disposal sites across the entire 3 Acre property
- North property line is a brook
CASE 1: Commercial Property Expansion: Asbestos in Soil

• **Project**: Renovate the Existing Facility for continued Industrial use
  - Add 10,000 square feet onto existing structure

• **First Steps??**
  - Site characterization?
  - Permitting & notification requirements?
  - Contractor licensing, qualifications, requirements?
  - Disposal, Timing, Cost?
CASE 1: Commercial Property Expansion: Asbestos in Soil

- Applicable surveys needed to identify suspect materials:
  - NESHAP
  - Soils
  - Water
  - Others?

- Permits
  - Federal: EPA
  - State: DEP
  - Local: City of Boston

- Asbestos Work plan:
  - Massachusetts Licensed Project Designer Required or Not
CASE 1: Commercial Property Expansion: Asbestos in Soil

Contractor Licenses/Qualifications:

- State Asbestos License
- OSHA compliant workforce
  - Licenses, MEDS, Fit-tested
  - Hydraulics License
  - Lift Operator, Fall Protection, HAZCOM, Fork Truck, etc.

- Access to Disposal Site
CASE 1: Commercial Property Expansion: Asbestos in Soil

Disposal:

• Regulations?
  • Packaging
  • Manifesting
  • Hauling

• Where does it go?
Building Redevelopment / Repositioning - Asbestos Regulation Variances

Moderator: Curt Knightly, EnviroVantage

Panelists:
- Tim Hunt, W.L. French Excavating Corp.
- Marc Richards, Tighe & Bond
CASE 2: Building Redevelopment/Property Re-positioning

- 16 Story Apartment Complex Built in 1965 – 96 Units
- Basement Boiler room w/ two (2) large furnaces & multiple fuel tanks
- Two stair wells – East & West
- Forced hot water heat

- Project Part A : Upgrade heating system – new radiators & new piping, increased diameter

- Project Part B : Top two story gut – conversion from 6 units into 4
CASE 2: Building Redevelopment/Property Repositioning

Project Part A: Upgrade heating system – new radiators & new piping – increased diameter

- Black Mastic & ACM Floor tile on each floor
- Asbestos Popcorn Ceiling
- Asbestos Thermal Pipe Insulation

- Qualifiers:
  - 64 square feet per wing: Total impacted space <100 square feet
  - If entire building done at one time: >100 square feet of impacted space
CASE 2: Building Redevelopment/Property Repositioning

- What rules and regulations apply here?
  - 310 CMR 7.15 U and/or 453 CMR 6.00
  - 40 CFR 61.145 and 61.150

- If an occupied space?

- <100 square feet impacted space vs >100 square feet?

- Disposal? How are small amounts of Asbestos managed and handled?
CASE 2: Building Redevelopment/Property Repositioning

Project Part B: Top two story gut – conversion from 6 units into 4

- First Steps??
  - What permits are needed? How to obtain? Who to call?
  - Labor requirements, Licensing?
  - Disposal, Timing, Cost?
CASE 2: Building Redevelopment/Property Repositioning

Project Part B: Top two story gut – conversion from 6 units into 4

- Rules and Regulations?
- Permitting?
- Occupied space?
- Fire Protection?
- Sprinkler Protection?

- Considerations:
  - Load weights of floors?
  - Wrap and cut? – Strip TSI?
  - Insurance Requirements?
  - Material Size Permits?
Planned vs. Emergency
- Transite Pipe Removal

Moderator: Curt Knightly, EnviroVantage

Panelists:
• Marc Richards, Tighe & Bond
• Dan Walsh, W.L. French Excavating Corp.
CASE 3: Transite Pipe - Unplanned

Water Main Break
• Two lane main street downtown urban area of small city
• During excavation of a break – excavator operator damages a transite sewer pipe

First Steps??
• What permits are needed? How to obtain? Who to call?
• Labor requirements, Licensing?
• Disposal, Timing, Cost?
CASE 3: Transite Pipe - Planned

Sewer Upgrade: Transite Piping – ACM – Cement based

- Two miles of Pipe
- Is an Asbestos Designer needed? What does a plan look like?
- DEP Regulations?
- Permits Required?
- Plans and Contingency?
- Disposal Non-Friable:
  - Timing, Cost?
  - Weight restrictions?
  - Road limits?
THANK YOU.
Managing the Diversity of Asbestos-Containing Materials (ACM)