EBC Site Remediation and Redevelopment Briefing from the Statewide Leadership Team of the MassDEP Bureau of Waste Site Cleanup
Welcome

Jonathan Kitchen

Chair, EBC Site Remediation and Redevelopment Committee

Principal, Civil & Environmental Consultants, Inc.

Environmental Business Council of New England
Energy Environment Economy
Programs and Priorities of the Bureau of Waste Site Cleanup

Paul Locke
Assistant Commissioner
Bureau of Waste Site Cleanup
MassDEP
Bureau of Waste Site Cleanup (BWSC)

Preparing for...
Responding to...
Assessing...
Cleaning up...
Restoring...

Releases of Oil and Hazardous Material to the Environment
Bureau of Waste Site Cleanup (BWSC)

3 Related – Yet Distinct - Programs

- Cleanup of Sites & Spills
- Oil Spill Prevention & Response
- Natural Resource Damages
What We’re Doing

• DRAFT Regulations

• Federal Sites
  (CERCLA, RCRA CA, Federal Facilities)

• State Sites (21E... TCE...PFAS...)

• Miscellaneous
  (EIPAS, data lake, Mass.Gov, soil, etc...)

• MOSPRA

• NRD
Soil Management Updates

- Consultation/Coordination Across Regions (Boston staff facilitating)
- Review of Submittals/follow-up
- Enforcement when indicated

Feedback??

VICTORY
New Mass.Gov
Cleaner, simpler & focused of SERVICES provided by state agencies
• Simply try GOOGLING us:

Bureau of Waste Site Cleanup | MassDEP | Mass.gov
The Bureau implements three programs to cleanup contamination in the environment and restore the affected land: the Waste Site Cleanup Program, the Marine Oil Spill Prevention & Response Program, and the Natural Resource Damages Program. As part of these efforts, we respond to environmental emergencies, often ...
You visited this page on 3/29/18.

Find Out about a Contaminated Property | Mass.gov
https://www.mass.gov/find-out-about-a-contaminated-property
There are over 40,000 hazardous waste sites in Massachusetts. These include simple spills during a fuel-oil delivery and complex Superfund sites. You can use this service to search for waste disposal facilities and more.
Service Oriented… Clear… Easy to Navigate. Plays well with Google.

What do you need help with?

Featured services
- MassDEP Emergency Response Program
- Find Out About A Contaminated Property

More services
- Site Cleanup Regulations and Policies | MassDEP
- Brownfields | MassDEP
- Natural Resource Damages Program | MassDEP
- Oil Spill Prevention & Response | MassDEP
- Waste Site Cleanup Advisory Committee | MassDEP
- Field Assessment and Support Team (FAST)
EEA Data Portal - Just the Beginning!

https://eeaoonline.eea.state.ma.us/portal#!/home

- access to search and interact with regulatory data
- Currently, MassDEP data on (some)
  - Permits
  - Facilities
  - Inspections, and
  - Enforcements
- Updated nightly
- Data can be viewed, manipulated, and downloaded to show comparisons and trends
Statewide MassDEP Permit Approvals by Town & Type

Choose Town(s) from dropdown menu or map

(Control click to choose more than one town)

Count of Permit by Town and Selection

Figure 1

Count of Permit by Program and Selection

Figure 2

Figure 3

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Permit Count</th>
<th>Type Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQ1L</td>
<td>190</td>
<td>Operating Permit Administrative Amendment</td>
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<tr>
<td>AQ1A</td>
<td>9</td>
<td>OPERATING PERMIT ENROLLMENT</td>
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<td>AQL</td>
<td>122</td>
<td>Operating Permit Renewal</td>
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<td>AQ2</td>
<td>8</td>
<td>Operating Permit Significant Modification</td>
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</table>

Total: 51237

Figure 4

Permit Count by Type and Selection

Figure 5

<table>
<thead>
<tr>
<th>Town</th>
<th>Program</th>
<th>Facility Name</th>
<th>Type Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTON</td>
<td>WATER SUPPLY/DRINKING WATER</td>
<td>APPLEWOOD COMMUNITY CORP</td>
<td>ABANDONMENT OF SOURCE</td>
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<tr>
<td>ACTON</td>
<td>WATER SUPPLY/DRINKING WATER</td>
<td>GREAT ROAD CONDOMINIUM TRUST</td>
<td>ABANDONMENT OF SOURCE</td>
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<tr>
<td>ACTON</td>
<td>WATER SUPPLY/DRINKING WATER</td>
<td>RICHMOND HOUSE APARTS SUMMIT PLTY</td>
<td>ABANDONMENT OF SOURCE</td>
</tr>
<tr>
<td>ACTON</td>
<td>WATER SUPPLY/DRINKING WATER</td>
<td>WAMPUS AVENUE APARTS</td>
<td>ABANDONMENT OF SOURCE</td>
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<tr>
<td>ACTON</td>
<td>WATER SUPPLY/DRINKING WATER</td>
<td>WOODWAY AP'TS</td>
<td>ABANDONMENT OF SOURCE</td>
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<td>HEN HOUSE RESTAURANT</td>
<td>ABANDONMENT OF SOURCE</td>
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<td>HEN HOUSE RESTAURANT</td>
<td>ABANDONMENT OF SOURCE</td>
</tr>
</tbody>
</table>
And Yet More Program Data...
New Home of the BWSC Searchable Sites List
Now updated **daily**!
Search for and See Pending & and Final Decisions

- Permits
- Certifications
- Licenses
- Notification Applications

- Search for and Provide Comment on Applications open for Public Comment.
Welcome to the EEA ePLACE Public Access Portal

Search

All Online Authorizations

Search and view all pending and final decisions for Permit, Certification, License or Notification Applications submitted online through the EEA ePLACE Portal. Search by location, permit category, status, and submission date. EEA began accepting online applications on May 5th 2017. See Help/FAQs for list of applications and date online submission began.

Search and/or Comment

All Applications Open for Public Comment

Search and/or provide Comments on Applications that are open for Public Comments. Not all applications will have comment periods and not all comments are published.

To submit an Application online, visit the EEA ePLACE Portal
Oil Spill Prevention & Response

https://www.mass.gov/oil-spill-prevention-response-massdep
Natural Resource Damages

https://www.mass.gov/natural-resource-damages-program-massdep

Improve wildlife habitat, water supply, public access ➔

Natural Resource Damages Settlements ➔

Restoration Success Stories ➔

Follow the Development of a Standardized NRD Approach ➔
Natural Resource Damages

RELEASE → CLEANUP → FUTURE

Assess past damage: loss of use & function
Assess future damage: loss of use & function

$$ Settlement

Restoration Project
Restoration Project
Restoration Project
Restoration Project
Restoration Project
Bureau of Waste Site Cleanup (BWSC)

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- Steve Johnson, Northeast Regional Office
- Gerard Martin, Southeast Regional Office
- Eva Tor, Western Regional Office
BUREAU OF WASTE SITE CLEANUP
Central Region

Mark Baldi
Deputy Regional Director
What is the average number of years CERO-BWSC staff have worked in the environmental field?
In 2017, Central Region’s BWSC was notified of 331 spills & releases…

- 42% were spills on roadways
- 21 were for indoor air impacts
- 7 were for Imminent Hazards
- 3 were for private well contamination

Which Central Massachusetts roadway had the most spills?
38,940 tons of contaminated soil were disposed at landfills from CERO sites in 2017

27,706 tons of contaminated soil from CERO sites were recycled as asphalt in 2017

16,222 tons of contaminated soil from CERO sites were treated by Thermal Processing or other means in 2017

How much soil has been imported to CERO’s soil reclamation facilities?
Turning Sites from Brown to Green

49% of brownfields are located in the cities of Worcester, Fitchburg, Leominster, Gardner, and Southbridge.

83 property owners extended their cleanup deadlines as an Eligible Person.

68% of CERO brownfields are located within 2 miles of access to a major highway.

How many former mill sites are there in CERO?
Brownfield Mapping

Property Fact Sheet

Site Name: NO LOCATION AID
Address: 112 SNOW ST
Parcel Address: 112 SNOW ST
Town: FITCHBURG
Acres: 0.06
Zip Code: 01420

Zoning: RC

In an Environmental Justice area?: Y

Breakdown of 2005 Landuse within 500 Ft

Property Description

Owner: ABDIELBA, AMAN, TRUSTEE
Parcel #: 3258 0
Past Use: BUNGALOW
MassDEP Zone II or IWA: N
Structures: 1284 sq ft
Located within 2.5 miles of Off/On RAMP-MERRIAM AVE TO RT 2 EB
Gas Provider: Unitil
Public Water: PARTIAL

Historic/Archaeological: N

Flood Plain: N
Electric Provider: Unitil

Last Sale Date: 3/6/2015
Last Sale Price: 1
Public Water Supply Well Onsite: N
Town has Public Sewer: PARTIAL

MassDEP Regulatory Information

DEP Tracking #: RTN2-0012593
Current MCP Status: RAO
AUL: N
Status Date: 5/13/2010
RAO Class: A2

Phase <Null>
Search additional sites at the address:
http://public-dep.state.ma.us/Segen/SegenSites2/SiteInfo.aspx

http://public-dep.state.ma.us/Segen/SegenSites2/SiteInfo.aspx?SiteID=RTN2-0012593

Link to description of abbreviations and definitions of Waste Site Cleanup terms on MassDEP's website:

Friday, September 22, 2017
Since 2014:

37 Sites in CERO have used soil vapor extraction
54 Sites in CERO have used remedial additives
89 Sites in CERO have used Monitored Natural Attenuation
46 Sites in CERO have sub-slab depressurization systems to treat vapor intrusion

How many Licensed Site Professionals are based in the Central Region?
The End is Near

80% of CERO sites reach Permanent closure in 1 year

93% of CERO sites reach Permanent closure in 6 years

99% of CERO sites reach Permanent closure in 14 years

8% of CERO sites reach Permanent closure with Activity & Use Limitation deed notices

How long on average does it take a CERO to perform a Level 1 screening audit?
Waste Site Cleanup Contacts

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MassDEP’s Re-evaluation of Closed TCE Sites

Evaluating Potential Imminent Hazards from TCE Vapor Intrusion at Closed Sites

Status Update for Northeast Region

April 3, 2018
Why the Re-evaluation?

• Change in EPA’s toxicity values in 2011 lowered the “safe” level of TCE by factor of 100.

• Result: extremely low levels of TCE can potentially cause serious health effects with exposures of very short duration.

• MassDEP has nearly 1000 closed sites with TCE contamination in its database, 700 +/- in the Northeast Region of the State.
Exposure Risks

- Increased risk of fetal heart malformations
- Increased risk of immunological effects
- Increased risk of cancers: liver, kidney, non-Hodgkins lymphoma

Residential Breathing exposure: 20,000 liters/day
Initial Review

• Close to **700** sites in Northeast Region were screened for potential VI risks.
• Concentration of TCE in groundwater and proximity to occupied buildings were identified in reports in MassDEP files.
• **129** Sites identified with potential to have an Imminent Hazard (IH) condition due to TCE vapor intrusion (**179** sites state-wide).
Current Status

• **65** previously closed TCE sites in NERO have been assigned to date for review (prioritized based on exposure potential);

• Upon deeper review of site data, **17** needed no further action re TCE vapor intrusion;

  **38** sites needed testing of sub-slab soil vapor and/or indoor air;

  **8** cases are still under review.
Results

- TCE detected in almost all of the 38 sites where testing was conducted.
- 5 sites were determined to have Imminent Hazard conditions.
- Air Purifying Units immediately deployed.
- Remedial systems installed to eliminate the Imminent Hazard.
Take Home Message

Property owners and other Potentially Responsible Parties for previously closed TCE sites should not wait to re-evaluate risks to TCE exposure via vapor intrusion.
Emerging Contaminants
(1, 4-dioxane and per/polyfluoroalkyl substances [PFAS])
in the
Southeast Region

Gerard Martin, Deputy Regional Director
MassDEP BWSC SERO

April 3, 2018
Emerging Contaminants in the Region

- N. Carver Landfill
  - 1,4-dioxane

- Joint Base Cape Cod
  - 1,4-dioxane and PFAS

- Eastham Landfill
  - 1,4-dioxane

- Berkeley Landfill
  - 1,4-dioxane

- Bourne Rotary
  - PFAS

- Barnstable Airport
  - 1,4-dioxane and PFAS

- Barnstable Fire Training
  - PFAS
1,4-Dioxane at Eastham Landfill

- November 2012 groundwater from MW-3D contained 1,4-dioxane at a concentration greater than the 3.0 µg/L GW-1 Standard near a private water supply well
- Sampled private water supply well downgradient of landfill and 1,4-dioxane was detected at 1.7 J µg/L
- Initiated Immediate Response Action under the MCP
  - Increased private water supply well sampling around the landfill
  - Provided bottled water
    - 1,4-dioxane is difficult to treat
- Increased private water supply well sampling
- Town submits mass mailings requesting access to private wells in the study area
1,4-Dioxane at Eastham Landfill

Location of wells are approximate

MW-3D
1,4-d = 18 µg/L

RES-8
1,4-d = 1.7 µg/L

2012 Monitoring Well Sampling
- Monitoring Well with 1,4-D > 0.3 µg/L
- Monitoring Well with 1,4-D < 0.3 µg/L
- Monitoring Well with 1,4-D ND
1,4-Dioxane at Eastham Landfill

• March 2013 - 8 properties (6 residential private wells) with 1,4-dioxane greater than 0.3 µg/L and approximately 20 additional private wells with detections of 1,4-dioxane less than 0.3 µg/L

• Town held multiple Town Meetings to vote for a public water supply system

• June 2015 10th IRA Status Report reported that 293 private wells were tested in the Landfill study area:
  – 42 private wells with 1,4-dioxane greater than 0.3 µg/L
  – 108 private wells with 1,4-dioxane less than 0.3 µg/L
  – 143 private wells with 1,4-dioxane not detected
1,4-Dioxane at Eastham Landfill

• Several additional private wells outside of the study area well sampled for background purposes
  – 1,4-dioxane detected in some of those wells but typically below 0.3 µg/L

• A private well outside study area sampled in March 2014 had 5 µg/L of 1,4-dioxane, a significant increase from not detected in July 2013
  – Concluded that potentially other sources exist not related to the Landfill
    • Consumer products contain 1,4-dioxane
  – Decision to sample septic systems
1,4-Dioxane at Eastham Landfill

Septic System Sampling Results

Analytical Results – Private wells versus Septic Gray Water

<table>
<thead>
<tr>
<th>Date</th>
<th>Residence 1</th>
<th>Residence 2</th>
<th>Residence 3</th>
</tr>
</thead>
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<tr>
<td></td>
<td>2/19/2013</td>
<td>7/23/2013</td>
<td>4/30/2013</td>
</tr>
<tr>
<td>Private well</td>
<td>0.26</td>
<td>0.11</td>
<td>0.075</td>
</tr>
<tr>
<td>&lt;0.144</td>
<td>5.03</td>
<td>&lt;0.144</td>
<td></td>
</tr>
<tr>
<td>0.910J</td>
<td>3.7</td>
<td>0.596</td>
<td></td>
</tr>
<tr>
<td>Gray water</td>
<td>0.887</td>
<td>0.217</td>
<td></td>
</tr>
<tr>
<td>0.75J</td>
<td>0.075</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Consultant concluded some wells impacted by septic systems
  - Products containing 1,4-dioxane
  - Discharging 1,4-dioxane impacted water through private well and discharging into septic system; constant re-contamination
1,4-Dioxane at Eastham Landfill

• MCP IRA Completion Report submitted in September 2017

• Residents want to use their wells for irrigation
  – Will contamination continue to be cycled into aquifer?
  – Developed guidelines for using abandoned wells for irrigation

• Continuing monitoring activities under Solid Waste Program
PFAS and 1,4-Dioxane at JBCC

• Groundwater contaminated with CVOCs migrating from the former waste water treatment plant/fire training area forming the Ashumet Valley plume

• Groundwater recovery, treatment and discharge system installed
  – Remnant CVOC plume remaining at two locations

• Sampled effluent of treatment system for 1,4-dioxane in 2013
  – 1,4-dioxane detected in effluent at 0.323 µg/L
  – Private wells impacted at concentrations greater than 0.3 µg/L
  – Shut down re-injection trench

• Sampled private wells for PFAS in 2015
  – PFAS detected in several wells above 0.07 µg/L (EPA HA)
PFAS and 1,4-Dioxane at JBCC

- Fire Training/Waste Water Treatment Area
- Remaining CVOC Ashumet Valley Plume
- Mashpee Village Well #6
- Lakeside Estates Community Well
- Locations are approximate
PFAS at JBCC

- 17 residences provided bottled water
- 10 then provided point-of-entry treatment systems
- 10 eventually connected to municipal water, including Lakeside Estates
- Remedial Investigation (RI) is on-going
  - Scope of Work for comprehensive assessment submitted to MassDEP
    - Installation of drive-points (initiated)
    - Complete private well survey (on-going)
    - Installation of monitoring wells (this year)
- Treatment system being designed for Mashpee Village Well #6
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EBC Program

MassDEP Western Regional Office
Eva Tor, P.E.
Deputy Regional Director
MassDEP WERO

April 3, 2018
Outline

• WERO BWSC program structure
• Asbestos program
• WERO initiatives
WERO Regional Priorities

• Municipal Outreach and Assistance
• Technical Assistance
• Enforcement
• Regulatory Timelines
WERO Waste Site Cleanup

Three Major Groups:

• Emergency Response
• Audits
• Brownfields and Risk Reduction
WERO Waste Site Cleanup

- Emergency Response
- Risk Reduction
- Audits
- Brownfield Assistance
- Enforcement
- Compliance Assistance
- Asbestos
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 to other emergencies
Initiatives

- Environmental Justice Urban Initiatives
- STEP – Small Town Environmental Partnership
EJ Urban Initiatives

- Springfield
  - Ward 1
- Chicopee
  - Willimansett section
- Holyoke
  - Downtown
  - Brownfields component
Urban Initiatives

• Environmental Justice/Quality of Life driven
• Developing partnerships
• Known regulated entities and newly discovered entities
• Compliance and technical assistance inspections
• Air and water monitoring
• Inspection and cataloging of potential Brownfields
• Discovery of unregistered facilities
Urban Initiatives – Brownfields Component

• Inspection of known Brownfields
• Discovery of potential sites
• Identify immediate hazards
• Assess community needs
• Assist municipality with prioritization of sites
• Add to inventory and summarize sites to assist with grant applications
MassDEP - WERO

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Open Potential Redevelopment Inventory

Open Success Stories

Click to Search
Department of Environmental Protection
Western Regional Office • 436 Dwight Street, Springfield MA 01110 • 413-794-1100

MCP Information Search

RTN:
Current MCP Status:

Physical Property Information

City/Town:
Address:
Acreage:

Search
Potential
Redevelopment

Search "Success Stories"

Property Fact Sheets
(Potential and Successes)
# Fmr. Lunt Silversmith

**Address:** 298 Federal St  
**Town:** Greenfield  
**Zoning:** General Industrial  
**Acres:** 11.40

## Property Description

**Owner:** LUNT SILVERSMITHS INC  
**Parcel #:** 95 1 UTC  
**Current Use:** Abandoned Facility  
**Past Use:** Silverware  
**Developed or Plans:**  
**Railway Distance (ft):** 1680.33  
**Transmission Line Distance (mi):**  
**Highway Distance (mi):** 1.01  
**Comments:**

## Regulatory/Resource Information

**RTN:** 1-0018869  
**Current MCP Status:** UNCLSS  
**Flood Plain:** No  
**Historic/Archaeological:** Yes  
**Public Water Supply:** Yes  
**Electric Provider:** WMeco  
**Gas Provider:** Berkshire Gas

![Map of property location]
STEP

• Small Towns only
• Voluntary municipal “audits”
• Agreement to come into compliance
• Comprehensive inspection
• Department action on egregious violations only
• True partnership benefiting the Town and the environment
Eva Tor
Deputy Regional Director
Bureau of Waste Site Cleanup

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Moderated Discussion

Moderator:
• Jon Kitchen, Civil & Environmental Consultants

Panelists:
• Paul Locke, Headquarters Team
• Mark Baldi, Central Regional Office
• Steve Johnson, Northeast Regional Office
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