Bureau of Waste Site Cleanup Advisory Committee Meeting

November 20, 2025



^{*} This meeting is being recorded.

WSC Advisory Committee Meeting Agenda

Welcome / Agenda Review – Adoption - 5 Minutes

Millie Garcia-Serrano, BWSC

21E Program Updates - 25 minutes

Administrative (5)

Federal Programs (5)

Policy & Program Development (5)

o ER & MOSPRA (5)

o NRD (5)

LSP Board Updates - 5 minutes

LSP Association Updates - 5 minutes

Draft COMM-25 Soils Policy – 25 minutes

Millie Garcia-Serrano, BWSC

Diane Baxter, BWSC

Ken Marra, BWSC

Cathy Kiley, BWSC

Michelle Craddock, BWSC

Terry Wood, LSP Board

Katherine Kudzma, LSP Association

Millie Garcia-Serrano, BWSC /

Luke Rogers, OGC



WSC Advisory Committee Meeting Agenda

Environmental and Sustainability Aspects of MBTA South Coast Rail Phase I Design and Construction – 20 minutes

Michael Stiller, PE, LSP, AECOM

ORS Updates - 15 minutes

Age Dependent Adjustment Factors (ADAFs) (10)

Risk Characterization Guidance (5)

Greg Braun, ORS

PFAS Updates - 10 minutes

Q&A - 5 minutes

Wrap-Up – 5 minutes

John Ziegler, BWSC

Total: 120 minutes

Millie Garcia-Serrano, BWSC

Millie Garcia-Serrano, BWSC

Next WSC Advisory Committee Meeting: Thursday, February 19, 2026



Administrative Updates



Millie Garcia-Serrano, MPH, Assistant Commissioner

MassDEP | Bureau of Waste Site Cleanup

Federal Programs Updates



Diane Baxter, Director,
Division of Federal Grant Programs

MassDEP | Bureau of Waste Site Cleanup

Federal Grants Program Highlights

- Superfund Sites
- CERCLA Pre-Remedial Program
- Brownfields Program



Superfund Highlights

Early Removal Action Approved - Lower Neponset River Site

- Removal of sediment w/ PCBs > 1 mg/kg in 2 critical deposition areas
- Removal of top 3 ft of sediment in "Reach 1" (Mother Brook to T&H Dam)
- Removal of 100 yr floodplain soils w/ PCBs > 1 mg/kg
- Permanent Cap where >1 mg/kg PCBs remain
- Removal of T&H Dam
- Additional sediment/soil removal upstream of dam for grading
- Estimated Cost \$78.5 million



MA Site Proposed for "Superfund" List

Former National Fireworks Site, Hanover

- Fireworks and munitions manufacturing, storage, testing
- Health and safety risks from munitions, explosives, mercury, lead, VOCs
- Significant assessment & removal under MCP (~ \$ 70 million)
- Cleanup to date mainly for munitions and explosives
- >\$200 million required to complete remediation
- 2023 MassDEP requested EPA consider NPL listing
- 2025 EPA R1 presented case to HQ listing panel 11/19/25



CWAG-STAssessment

\$2,000,000 thru 2029

128a BIL Assess. or Cleanup

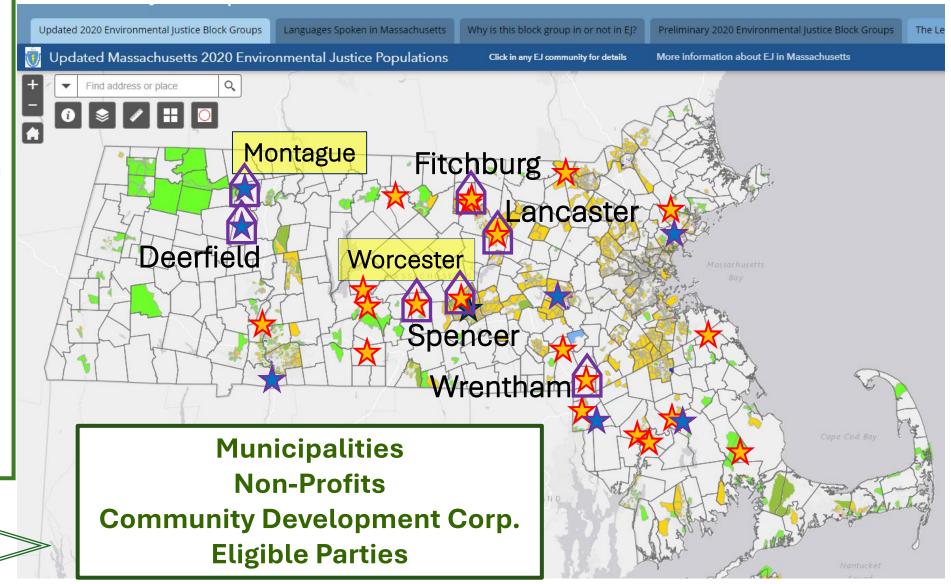
 \approx \$4,000,000 thru 2027

- Assessment Site
- ★ Cleanup Site
- Supporting Planned Housing

Habitat-for-Humanity

Housing

MassDEP Brownfields Program



MassDEP Brownfields Team

BWSC Boston

David Foss, CPG, LSP

Statewide Brownfields Coordinator

David.Foss@Mass.Gov

Abby Anderson Brownfields - EJ Coordinator Abigail.E.Anderson@Mass.Gov

Regional Coordinators

- WERO Caprice Shaw
- CERO Kevin Daoust
- NERO Joanne Fagan
- SERO Kait Carvalho



<u>Technical Assistance</u> and <u>Funding</u> available for assessment, cleanup, and redevelopment planning.

Brownfields Assistance Request Form

https://www.mass.gov/info-details/brownfield-grants-financial-resources

Policy & Program Development Updates



Ken Marra, P.E., Policy & Program Development
MassDEP | Bureau of Waste Site Cleanup

Policy/Guidance Updates

FINAL COMPLETE:

- AULs
- Off-Gas Treatment
- MCP Amendments Q&As
- CAMs (21 of 22)
- 1633)

PUBLIC COMMENT

(released or soon to be)

- Risk Characterization
- Engineered Barriers/FAMs
- Public Involvement
- COMM-25 Soils
- PFAS CAM (Method AEPMM Operating Regimen
 - VPH/EPH Update

IN PROGRESS:

- Master Q&A
- UST Closure
- Vapor Intrusion
- PFAS Q&A
- PFAS Interim sampling
- PFAS CAM (Method 533)
- AUL Training (winter 2026)

STILL NEEDED:

- Monitored Natural Attenuation
- Assessment Manual Asbestos in Soil
 - Capping SOP
 - COMM-97/COMM-94
 - Historic Fill
 - Training (MNA, ER others)
 - Coal Tar Characterization

Emergency Response & MOSPRA Updates



Cathy Kiley, Emergency Planning & Response Coordinator
MassDEP | Bureau of Waste Site Cleanup

Emergency Response Highlights

- ER Staff Changes
 - NERO ER Section Chief Ken Sanderson new ER Chief
 - CERO ER Section Chief Tony Kurpaska retired. In process of hiring new ER Section Chief
- FY25 (through 11/17): 430 Releases/449 Complaints
 - Release Notifications majority are 2-hr notifications



MOSPRA Highlights

- Geographic Response Strategy (GRS) Testing/First Responder Training (17 years)
 - Developed 160 GRS to date
 - Trained 3,056 First Responders to date
 - Completed 10 Exercises in 2025; Planning 10 Exercises in 2026
- Oil Spill Trailers 81 trailers in 70 Communities; In 2026, plan to replace 5 trailers due to age/condition
- Grant Program:
 - Round 1- 2021 9 Grants approx. \$214,309
 - Round 2 FY2025 15 Grants approx. \$691,589
 - Round 3 FY2026 Announce in late 2025/early 2026 expect to award >\$1 million in grants
- Website: https://www.mass.gov/oil-spill-prevention-response



Natural Resource Damages (NRD) Program Updates



Michelle Craddock, NRD Program Manager
MassDEP | Bureau of Waste Site Cleanup

Natural Resource Damages (NRD) Program

- Management of NRD Claims and Settlements
 - 14 NRD cases in assessment/negotiation/restoration
 - 12 active grant awards/interdepartmental service agreements (ISA)
- Recent highlights:
 - Shpack Landfill Superfund Site \$2.1M NRD settlement
 - Kirvin Park wetland and floodplain restoration (Pittsfield)
 - Grant award to Connecticut River Conservancy for design of the removal of the Colrain Lower Reservoir Dam and stream bank stabilization (Colrain acid spill)
 - Interagency Service Agreement with MassWidlife for design and permitting of Ram Island (Mattapoisett) restoration (Bouchard B-120 spill)

Licensed Site Professional Board Report Out



Terry Wood, Executive Director
MA Licensed Site Professional Board (LSPB)

Licensed Site Professional Association Report Out



Katherine Kudzma, LSPA Board of Directors
MA Licensed Site Professional Association (LSPA)

Draft COMM-25 Soils Policy



Millie Garcia-Serrano, Bureau of Waste Site Cleanup
Luke Rogers, Office of General Council
MassDEP

Today's Discussion:

- Overall Structure of Policy
- "Acceptance Criteria"



Overall Structure of COMM-25

Section I: Provides notice that MassDEP may issue "Comm-25 ACOs" to persons who:

- (a) are performing Response Actions at a Disposal Site ("Soil Receiving Site"); and
- (b) intend to import large quantities of contaminated soil from one or more other locations ("**Soil Donor Sites**") for <u>re-use</u>.

MassDE

Overall Structure of COMM-25

- **Section II:** the process that will govern the request for, and issuance of, a COMM-25 ACO;
- **Section III:** minimum terms and conditions to be contained in a COMM-25 ACO, including, in <u>Appendix B</u>, soil acceptance criteria; and
- **Section IV:** public involvement requirements associated with a COMM-25 ACO, including, in <u>Appendix C</u>, requirements related to EJ Populations



	Re-use or Disposal?	Receiving Location	Soil Acceptance Criteria	Permanent Solution	Characterization of Imported Soil	Notification Exceptions and other MCP Approvals	Community Involvement
True COMM- 15 ACOs	Re-use	Sand pit, gravel pit or quarry	Generally, below reportable concentrations at receiving location	No explicit obligation to reach a Permanent Solution	Soils sampled as transported	Notification: 310 CMR 40.0317(13)	Applicant to discuss with local officials
Proposed COMM-25 ACOs	Re-use	MCP Disposal Site	Max and mean capped at lower of (a) what is present at Soil Receiving Site and (b) overall caps	Explicit obligation to reach and maintain a Permanent Solution	(1) Donor site "pre- characterized" AND (2) Soils sampled as transported	Notification: 310 CMR 40.0317(13) (prior to PS) then 310 CMR 40.0317(17) (after PS); Other MCP Approvals: 310 CMR 40.0031(1)	Applicant to notify public in writing and respond to comments; provisions specific to EJ Populations

Draft COMM-25 Soils Policy Video

• Comm-25 Derivation of Soil Acceptance Criteria Video





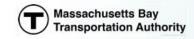




www.mass.gov/southcoastrail

Environmental and Sustainability Aspects of MBTA South Coast Rail Phase I Design and Construction







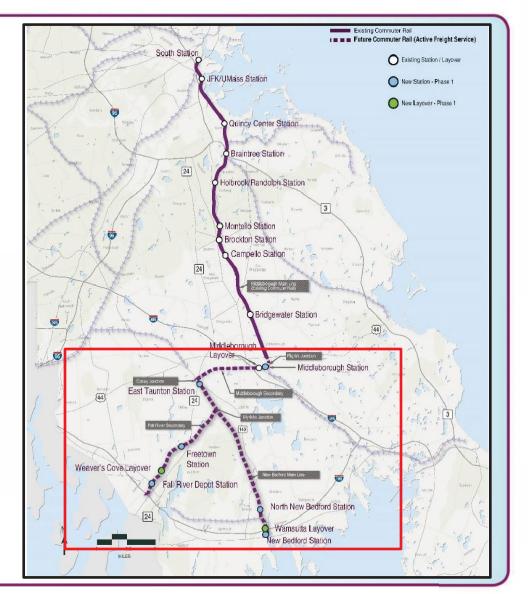


Purpose and Scope

Public transportation project to enhance regional mobility and support smart growth in EJ communities.

Work elements in active freight rail corridor:

- Track replacement and improvement – 36 miles
- 6 new Stations
- 2 new Layover Facilities
- 14 Bridges
- 70 Culverts and extensive drainage improvements

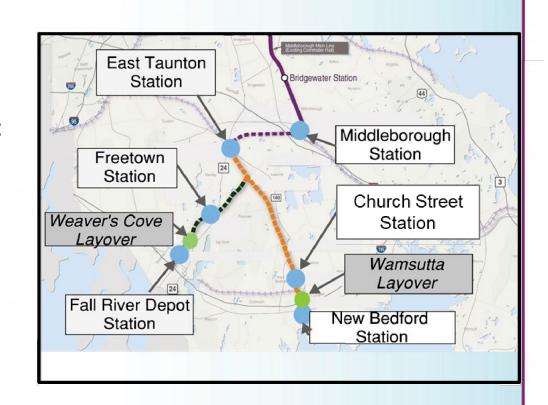






Brownfields Revitalization & Soil Re-Use Strategy

- 1. <u>Siting</u>: Renewal of existing freight rail corridor
- 2. <u>Siting</u>: Brownfields re-use, stations & layover facilities
- 3. Revitalization and Renewal: Blighted properties and hazardous materials
- 4. Resiliency: Railroad improvements
- Conservation: Natural resource protections
- 6. <u>Conservation</u>: Soil re-use strategy







<u>Siting – Renewal of Existing Rail Corridor:</u>

Old Colony Line

- Passenger service:
 1880s to 1950s.
- Freight rail: 1880s to present.

Utilizing the existing rail corridor limited the disturbance footprint but required extensive coordination with active freight service throughout construction.









<u>Siting – Brownfields Revitalization:</u>

New Layover Facility & New Station:

Wamsutta, New Bedford (Former Railyard, RTN 4-118, EPA TSCA)

New Layover Facility:
Weavers Cove, Fall River
(Former Oil Terminal, RTN 4749)

New Stations (4 separate RTNs):
Fall River Depot
Middleboro Station
Church Street Station









Blighted Properties Renewal and Abatement:

- Removed 12 abandoned/ underutilized buildings (with abatement of hazardous materials, lead, asbestos, PCBs).
- Revitalization of state-listed contaminated sites in Fall River and New Bedford.
- Removal of abandoned underground fuel storage tanks and contaminated soils.
- Removal of PCB and asbestos debris.



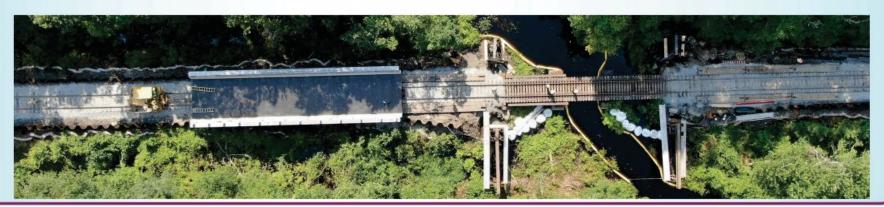






Resiliency - Railroad Infrastructure:

- Work included 36 miles of new track, and improvements to 14 bridges and over 70 culverts.
- Drainage and structural improvements reduce flood and storm damage potential to railroad operations.
- New sheet and soldier pile walls limit environmental footprint and also provide structural support to the track bed.
- The bridge and culvert improvements have further benefits to wetlands, water quality, and wildlife connectivity.







Conservation: Natural Resources:

- Installed six new wetland mitigation areas (34,000+ sf), providing breeding habitat to frogs and other amphibians.
- Installed 130+ wildlife crossings over 8 miles, connecting habitats of statelisted species of concern, including the Wood Turtle and Eastern Box Turtle.
- Re-use of excess granite blocks by Massachusetts Division of Marine Fisheries (DMF) to enhance fisheries habitat in Nantucket Sound.









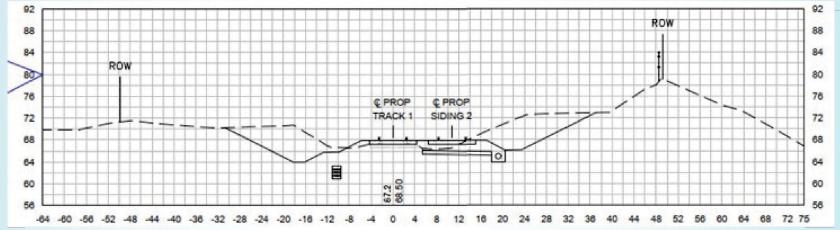


Conservation: Soil Re-Use (Design, VHB LSP)

Typical railroad ROW soil contaminants:

- Varying concentrations of arsenic,
 PAHs/SVOCs
- Highest concentration in soils in immediate proximity to tracks
 Program included 390,000 CY of excavated materials requiring management and handling for re-use or disposal.









Soils Re-Use - Design and Planning

- Regulatory Framework (MCP)
 - Special Project Designation
 - Coordination with MassDEP on beneficial re-use approach
 - MCP exemption for railroad soils
- Engineering evaluation and development of re-use goals:
 - Estimated materials volume by category
 - Contaminated vs clean
 - Geotechnical criteria (ballast, sub-ballast, fill, topsoil)
 - Cut-fill balance (program-wide and by project)
 - Conservative goals for re-use (75% re-use target)
- Developed construction contract framework to achieve goals
 - Fill Management Plans
 - Contract Schedule Milestones
 - Inter-Contract Volumes and Allowances
 - Disposal Allowances





Soils Re-Use - Contract and Construction Stage

- Excavated Materials Management Plan (EMMP)
 - Material shipping records (MSRs)
- Material Management and Segregation, Dust Control
- Soil Transfer Documentation
 - PMCM field oversight
 - Re-use goals, KPIs
- Contractor Collaboration













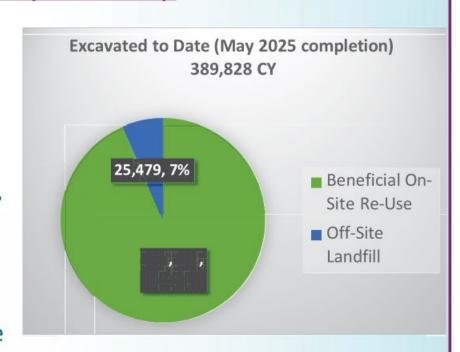
Conservation: Soil Re-Use (Results)

Keys to Success:

- Regulatory Support (MassDEP SERO)
- Design for Re-Use Criteria (chemical, geotechnical)
- Contract Requirements, Incentives, and Contractor Collaboration

SCR Program Metrics at completion:

- 389,828 CY excavated
- 364,349 CY Beneficial on-site reuse (93% vs goal of 75%)
- 25,479 CY offsite disposal (7%, most of this was PCB TSCA soils).









Soils Re-Use: Lessons Learned and Key Aspects

- Planning:
 - Outreach to regulators (and MassDEP support was critical)
 - Sequencing of Soils Excavated vs Placed
 - Spacial Constraints within Project and for Staging areas
 - Material restrictions (chemical, geotechnical)
- Geotechnical Re-Use Criteria
 - Ballast, sub-ballast, structural fill, ordinary fill, topsoil
- Contractor Commitment
 - Coordination critical on all levels
 - Material processing vs importing new material









Questions

Key Contributors

- MBTA as Owner
- MassDEP Southeast Region
- Designer: VHB + HNTB
- PMCM: AECOM + HDR
- Early Action Culvert and Bridge Contracts
 - JF White, Charter, Mabbett
- Fall River Secondary DW White + Skanska Joint Venture
 - Prime Engineering
- Middleborough Secondary & New Bedford Mainline The Middlesex Corp. & Tutor Perini Joint Venture
 - Strategic Environmental Services
- MassDOT
- MassCoastal Railroad



Office of Research & Standards (ORS) Updates



Greg Braun, Chief, Risk Analysis DivisionMassDEP | Office of Research & Standards

ORS Highlights

- Age-Dependent Adjustment Factors (ADAFs)
- Risk Characterization Guidance Status



Age-Dependent Adjustment Factors (ADAFs)

Most cancer potency estimates used in risk assessment do not account for the potential for increased susceptibility of children from birth to adolescence.

USEPA, 2005: Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens

Mutagenic Mode of Action (MMOA)



USEPA 2005 ADAF/MMOA Guidance

- Early life exposures can result in the development of cancer.
- Children can be more susceptible to carcinogenic agents than adults.
- Application of ADAFs to young age groups results in higher risk estimates.
- USEPA recommends ADAFs be applied when estimating cancer risks for early life (<16 years of age) exposures to mutagens.





Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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Charles D. Baker Governor

Karyn E. Polito Lieutenant Governor Matthew A. Beaton Secretary

> Martin Suuberg Commissioner

Summary of Proposed MCP Method 1 Standards Revisions March 2019



Design Superdirects, politic 310 CMR: DEPARTMENT OF ENVIRONMENTAL PROTECTION

310 CMR.40.0000: MASSACHUSETTS CONTINGENCY PLAN

Section

SUBPART A: GENERAL PROVISIONS

	Authority
40.0002:	
	Applicability
	Effective Dates
	Terminology, Definitions, and Acronyms
	Rules of Construction
	Computation of Time Periods and Deadlines
	Certification of Submittals
	Effect of Orders and Appeals
	Confidentiality of Information
	Presumption of Ineparable Ham
	Document Retention
	Content of Waste Site Clearup Activity Opinions
	Laboratory Certification: Reserved)
	Environmental Sample Collection and Analyses
	Health and Safety Discodures
	Violations of Environmental Restrictions
	Violations of a Permanent or Temporary Solution
	Unlawful Interference with Response Actions
	Accurate and Timely Submittal of Documents
	Accurace and Complete Record-keeping
	Timely Action and Anticipatory Noncompliance
	Extensions of Deadlines and Time Periods for Force Majeure
	Remedial Monitoring Report
	Well Maintenance and Security
	Management Procedures for Remediation Waste
	General Provisions for the Management of Remediation Wasta
	Contaminated Media and Contaminated Debris
	Lincontainerized Wests
	Bill of Lading Process
	Bill of Lading Form
	Management Requirements for Storing Remediation Waste
	Management Procedures for Remedial Wastewater and Remedial Additives
40.0041:	
	Remedial Wastewater Discharges to Surface Water Remedial Wastewater Discharges to Publicly Owned Treatment Works (POTW)
40.0043	Remedial Wastewater Discharges to Non-publicly Owned Treatment Works
	Remedial Wastewater Discharges to the Ground Surface or Subsurface and/or Groundwate
	Application of Remedial Additives
	Reporting Requisements for Discharges of Remedial Wastewater and Remedial Additives
	Remedial Air Emissions
	Appeals of Orders and Permits
	Appeals Relative to Administrative Penalties
40.0061:	Special Project Designation Permits Purpose and Eligibility
	Procedures for Applying Special Project Designation
	Approval of Applications for Special Project Designation Permits, and Special Project
40.0003.	Designation Permit Modifications, Transfers or Extensions
	Designation Female Strong Control of Extensions

40 0065 Medification of Special Project Designation Permit er of Special Project Designation Permit

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naion and Revocation of Special Project Designation Permit val Process for Special Project Designation Permits

MassDEP

MCP Amendments Public Hearing Draft

March 19, 2019 LSP Association Westborough, MA



MassDEP

Chemical	Adjustment Approach						
PAHs							
Benzo(a)pyrene	Default approach using ADAFs						
Benzo(a)anthracene	Default approach using ADAFs						
Benzo(b)fluoranthene	Default approach using ADAFs						
Benzo(k)fluoranthene	Default approach using ADAFs						
Chrysene	Default approach using ADAFs						
Dibenzo(ah)anthracene	Default approach using ADAFs						
Indeno(1,2,3-cd)pyrene	Default approach using ADAFs						
Chromium VI	Default approach using ADAFs						
Dichloromethane	Default approach using ADAFs						
Trichloroethylene	Risk of kidney cancer is assessed with the default approach using ADAFs. Risk of liver cancer and non-Hodgkin's Lymphoma is assessed using the conventional approach for estimating cancer risk. The two risk estimates are summed to estimate total cancer risk.						
Vinyl Chloride	Cancer slope factors for vinyl chloride are age-specific, so ADAFs are not used to evaluate cancer risk from early-life exposures. However, exposures up to the age of two are averaged over only that brief window of time; they are not averaged over a lifetime. As a consequence, exposures up to the age of two contribute more of the total lifetime risk than later exposures do.						

Note: Few Method 1 standards are actually affected by these changes, because a number of the standards for which the risk-based concentrations have changed are set at background or MMCL concentrations.



Approaches to Account for Increased Susceptibility to Early Life Exposures. USEPA recommends using one of two methods.

<u>Chemical specific method</u> - A chemical-specific approach is used for data rich chemicals that have been extensively evaluated for effects from early-life exposures (e.g., TCE).

<u>Default method</u> - Age dependent adjustment factors (ADAFs) are used for chemicals when the data are insufficient for a chemical-specific approach. ADAFs are used only for compounds identified by USEPA as mutagenic.

An ADAF of 10 is applied to the cancer slope factor (CSF) and inhalation unit risk (IUR) for exposures before 2 years of age.

- from birth until the second birthday
- (ADAF (0-2) = 10).

An ADAF of 3 is applied to the cancer slope factor (CSF) and inhalation unit risk (IUR) for exposures beginning at 2 years of age until 16.

- from the second birthday until 16 years old
- (ADAF (2-16) = 3).

An ADAF of 1 is applied after 16 years of age (no adjustment).



ADAFs in the MCP Shortform

Residential Soil (sf0624rs)

Resident - Soil: Table RS-1

Exposure Point Concentration (EPC)

Based on Resident Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

Shortforms Version June 2024

Method 3 Lookup Tables Version v0624

ELCR (all chemicals) = 6.0E-08

Chronic HI (all chemicals) = 3.4E-03

Subchronic HI (all chemicals) = 1.1E-03

Do Not Insert Or Delete Any Rows

Click on empty cell below and select OHM using arrow.

Oil or	EPC	Cancer			Chronic			Subchronic			Notes
Hazardous Material	(mg/kg)	ELCR ing	ELCR _{derm}	ELCR total	HQ _{ing}	HQ _{derm}	HQ total	HQ ing	HQ _{derm}	HQ total	Hotes
CHRYSENE	1.0E+02	3.9E-08	2.1E-08	6.0E-08	2.2E-03	1.2E-03	3.4E-03	7.5E-04	3.2E-04	1.1E-03	ELCR calculations are on the "OtherMut C" tab.

ELCR calculations are on the "OtherMut C" tab.



MCP Shortform Reminder

MassDEP Shortforms User's Guide:

"If exposure factors or toxicity values for listed chemicals are altered, any modifications should be highlighted through the use of bold text, changed titles, and text description that clarifies that the workbooks are no longer the standard MassDEP Shortforms. The risk assessor should also describe and provide technical justification for the changes in the accompanying text."

External review status:

- Chapters 1 10 external comments received
- External Review:
 - Chapter 14: General Ecological Risk
 - Chapter 17: Wetland Ecological Risk
 - Comments due December 5



Internal draft development:

- Chapter 11: Method 3 Risk Characterization
 - Multiple appendixes
- Chapter 15: Aquatic Ecological Risk
- Chapter 16: Terrestrial Ecological Risk
 - 12 Ecological Risk appendixes
 - Mostly existing Technical Updates
 - e.g., Freshwater Sediment Toxicity Testing



Chapter 11: Method 3 Risk Characterization

- Under review by ORS Toxicology Division
- Includes multiple appendixes, including...
 - Dioxins & Furans
 - Soil & Sediment Adherence Factors
 - ADAFs/MMOA
- BWSC internal review complete
- Targeting early 2026 release for public comment



The current revisions are meant to update/replace the 1995 guidance. For methods we think warrant continued use we are keeping those methods in the guidance, often in the same chapters.

We intend to hold at least two meetings with risk assessors to garner any additional comments, concerns or suggestions pertaining to the guidance.



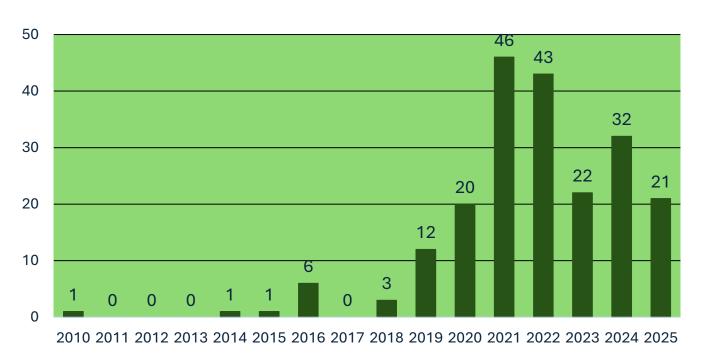
PFAS Updates



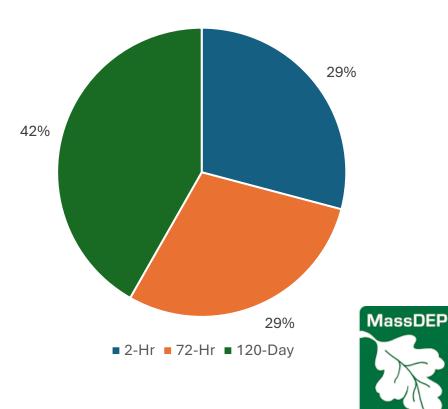
John Ziegler, PFAS Coordinator
MassDEP | Bureau of Waste Site Cleanup

PFAS Notifications

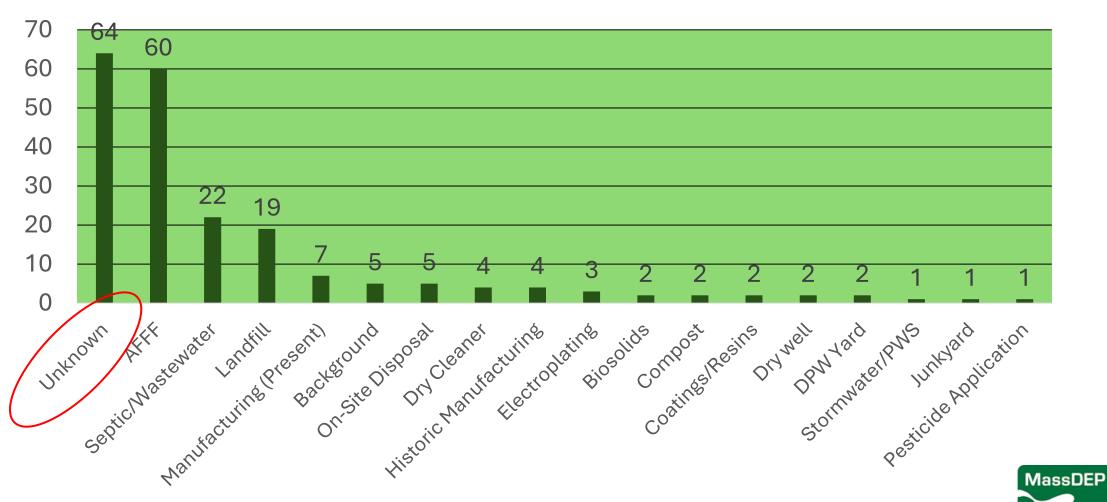
PFAS Notifications



PFAS
Notification Categories



PFAS Sources Cited



MCP Status for PFAS Sites

- 20 PFAS sites (≈ 10%) have achieved either a Permanent or Temporary Solution
- Majority of sites are conducting assessment (Phase I or II)
- Handful of sites have implemented or plan to implement a remedy
 - Monitoring only
 - Permeable Reactive Barrier
 - Smoldering (Joint Base Cape Cod Pilot Test Ongoing – Soil)



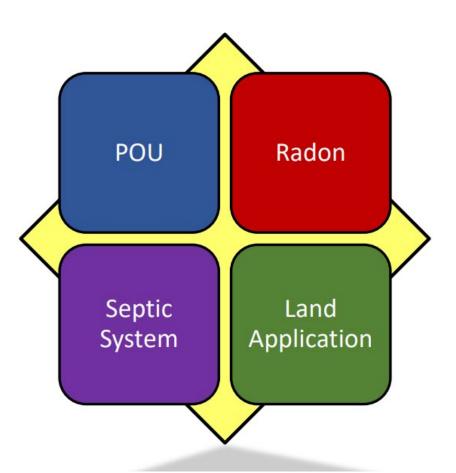
Addressing Imminent Hazards

- Two-Year OMM following POET System Installation
- 98 POET Systems Installed
 - 37 transferred to site owner
- Emerging Issue Radon adsorption on GAC



MassDEP FY26 PFAS Future Topics for Waste Sites

Alternative Adsorbents for PFAS Treatment



Innovative PFAS Remediation Technologies

PFAS Field Screening



Questions?

