

MBTA Environmental Department Overview

**MBTA Board of Directors/
Safety, Health &
Environment
Subcommittee**

May 11, 2023



MBTA Environmental Department Responsibilities

Environmental Matters in Capital Program

Environmental Review and Permitting

Construction Period Compliance

Sustainable Design Support

Environmental Matters in Operating Program

Environmental Compliance

Audits & Training

Site Remediation Environmental

Legal Matters

Environmental Matters in the Energy Program

Energy Management

Climate Resiliency and Sustainability

Resource Conservation

Environmental Review and Permitting of Capital Programs

Manage Environmental Review and Permitting of Capital Projects

- Designed, implemented, and trained Project Managers on Environmental Review and Permitting Checklist
- Permit and Compliance areas include:
 - Wetlands and Waterways Permitting
 - Soil & Waste Management
 - Endangered Species Protection
 - Historic Preservation
- Checklists are used to identify all applicable permits and track compliance during project scoping, 15%, 30%, and Final Design phases and through Construction

Embed Environmental Sustainability into Projects

- Build Climate Resiliency into Planning & Design
- Incorporate Energy Efficiency and Water Conservation Systems, Soil Reuse
- Promote Use of Sustainable Materials
 - Seeking to build LEED Certified and Envision Certified Projects



Operational Compliance



Environmental Compliance Areas

- Underground and Above Ground Storage Tanks
- Wastewater Treatment Plants
- Air Emissions
- Stormwater Management
- Spill Prevention Plans
- Hazardous Materials and Waste Management
- Soil & Groundwater Remediation
- Vegetation Management
- Vehicle Compliance

Environmental Sustainability – Energy Program



Manage, Track, and Report on Energy Consumption, GHG, and Facility Emissions

- Implemented an Energy Enterprise Management System
 - Tracks and controls nearly 600 utility accounts
 - Provides a data tool to make smart energy management decisions
- Work with DOER, Executive Order 594 – *Leading by Example Decarbonizing and Minimizing Impacts of State Government*

Renewable Energy

- MBTA's current electricity contract includes 100% renewable energy certificates
- Incorporate renewable energy (solar, wind & geothermal) into the energy portfolio

Energy Efficiency Upgrades

- Over 100 energy efficiency upgrades resulting in yearly savings of \$1m/year & 75m kWh and 117 million pounds of GHGs
- Local utilities paid over 60% of capital costs

Future

- Develop an Energy Plan
- Advanced metering

Environmental Sustainability – Climate Change Resiliency

Continuing Vulnerability Assessments

- Identifying those parts of the system that are likely to be affected by extreme storm events due to Climate Change
- Assess risk to the system based on those storm conditions
- New GEC Contract for Resiliency Advertised

SHMCAP Actions Submitted

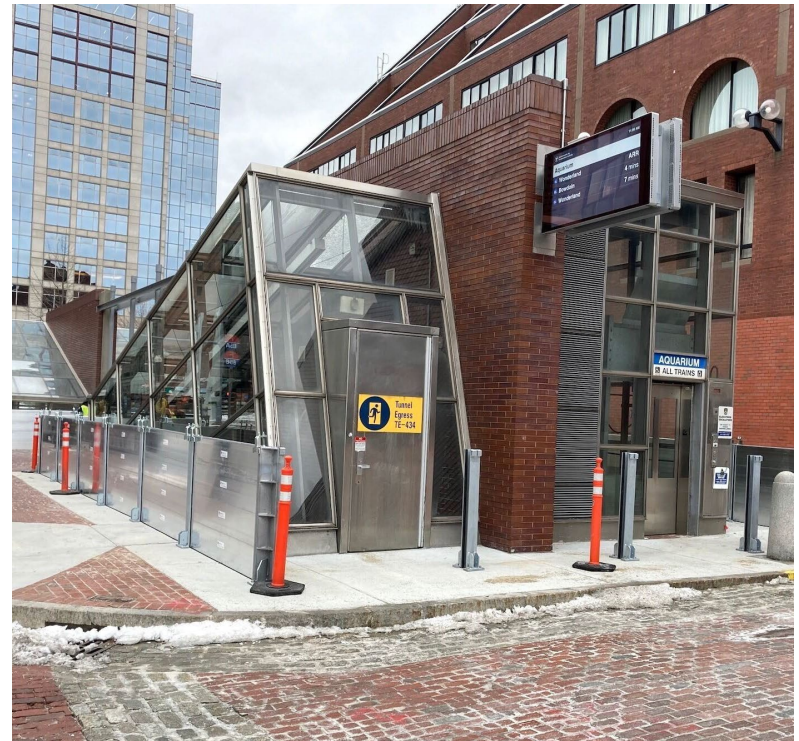
Elevating and Embedding Resiliency Concepts into Projects Across the Authority

- Flood Protection Barriers
- Seawalls
- Cooling Projects for Extreme Heat
- Using Weather Resistant Materials

Developing Systemwide Climate Resiliency Plan

MIT Collaboration

- Worked w/MIT Graduate Student on Coastal Risk to Rapid Transit Lines
- Recent Publication in Nature on 4/24/2023:
<https://www.nature.com/articles/s43247-023-00804-7>



Environmental Sustainability – Resource Conservation

Oversee and manage programs to reduce waste and conserve resources:

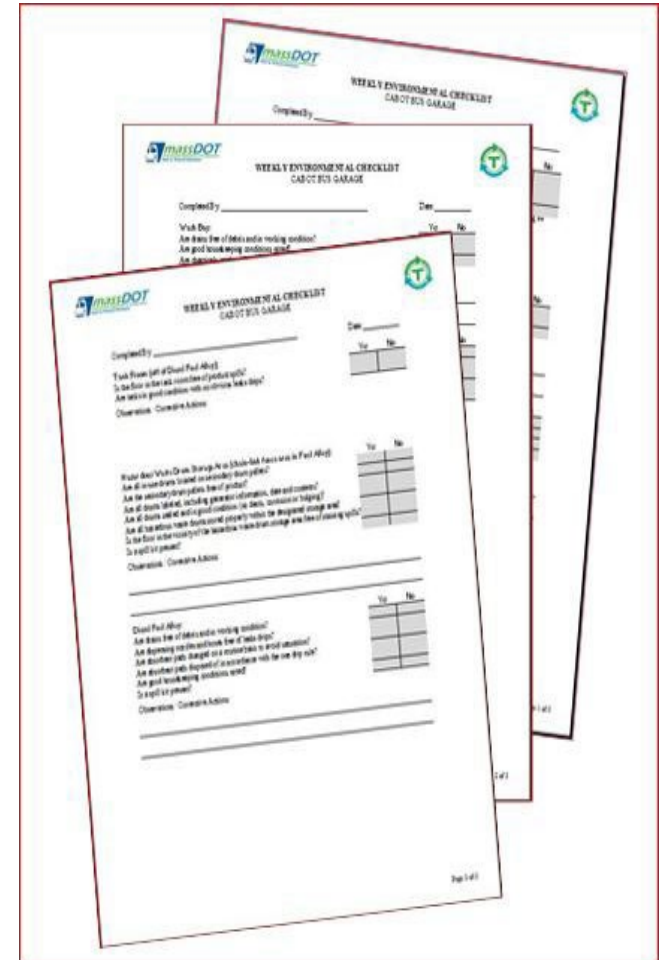
- Enforce and oversee “land bans”
 - Plastic, metals, wood, cardboard, glass, etc.
- Universal waste
 - Batteries, fluorescent light bulbs
- Waste oil and used antifreeze
- Hazardous waste and emergency response
- Customer-facing recycling programs



ENVIRONMENTAL SUSTAINABILITY AND MANAGEMENT SYSTEM (ESMS)

Updating ESMS

- Incorporate and update documentation of environmental and sustainability initiatives, responsibilities, and actions
- Improve understanding of environmental conditions of infrastructure and systems via auditing
- Develop or upgrade SOP's to ensure compliance and consistency across the system
- Improve financial planning for infrastructure improvements
- Provide for cross-fertilization and increased communication of ideas across the Authority



CONTINUED INTEGRATION TO THE SMS