The Challenges and Benefits of Developing a Brownfield
Region 1 TAB services

- Direct Technical Assistance
- Municipal Assistance Program
- Continuing Education
- Community Engagement
# Direct Technical Assistance

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<td>• EPA Brownfields proposals (assessment, cleanup, multipurpose) and State Program proposals</td>
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Municipal Assistance Program

Communities will participate in the service-based learning Brownfields Corps course activities and receive help on brownfields projects.

**Fall Semester (Lecture)**

**EPA GRANT REVIEW**
- Review of EPA Grants for brownfields assessment and cleanup
- Assistance with research and technical components of the grant

**Spring Semester (Practicum)**

**TECHNICAL SUPPORT**
- Collect data for brownfield sites
  - Review previous site investigation reports
  - Evaluation of redevelopment options
  - Brownfield inventories for communities (lists, maps)
Show me the money!

The Brownfields Corps has successfully secured 5 EPA funding awards for communities totaling $1.4 million.
List of Projects      Spring 2022

1. Brownfields Inventory, Athol, MA
2. Brownfields Inventory, Attleboro, MA
3. Redevelopment Options, Monson, MA
4. Redevelopment Options (S Main St), Waterbury, CT
5. Redevelopment Options (Anaconda/American Brass), Waterbury, CT
6. Redevelopment Options, Town of Lyndon, VT
7. Community Engagement, Bethlehem, NH
• Dr. Marisa Chrysochoou
• Dr. Nefeli Bompoti

https://tab.program.uconn.edu
Brownfields cleanup can be complicated

- Brownfields add another dimension to the challenge of redevelopment of underutilized properties. Most are found in urban areas and have been vacant for years, if not decades

- Brownfields are most likely to be a combination of contaminants possibly requiring more than one method of remediation.

Love Canal
Brownfields Catch-22

• In many cases funding sources want to see a developer willing to develop a site before funding

• Developers want assurance they can put a shovel in the ground by a date certain.
Advantages & Risks of redeveloping a BF from a real estate view

- Prime Location
- Existing Infrastructure
- Funding Opportunities
- Sustainable Land Reuse

- Liability
- Cleanup Costs & Timeline
- Financing
- Weak Demand
Site Reuse Assessment

GOAL: Identify potential reuse options for the brownfield

Provides a full evaluation of the opportunities, constraints and range of redevelopment possibilities related to the reuse of a brownfield site.

- Site characteristics and needs
- Area economy and demographics
- Physical, environmental conditions
- Applicable regulations
- Real estate market conditions

Site Reuse Assessment

PREPARED Workbook (Property Reuse Assessment)
Criteria for Consideration

- Economic Development Strategy & Regional/Local planning studies
- Market Studies
- Zoning Regulations
- Wetlands and Floodplains
- Infrastructure & Utilities
- Traffic Assessment
- Remediation restrictions
- Building Assessment (if building will be reused)
Challenges—Understanding what you’re are dealing with

What is the type and level of contamination?
What’s the difference?

• Polluted Soil
• Hazardous Soil
• Contaminated Soil
• Polluted Fill
• Dirty Dirt
Polluted Soil

Soil affected by a release of a substance at a concentration above the analytical detection limit (Connecticut definition)
Hazardous Soil

Soil that contains contaminants defined as hazardous waste which is defined as waste that is dangerous or potentially harmful to our health or the environment.
Contaminated Soil

Soil that contains waste that is not defined as hazardous, but substances that can be potentially harmful to our health or the environment.
Polluted Fill

• Soil/sediment which contained polluted substances at the time such soil/sediment was deposited as fill material.
Dirty Dirt

A term sometimes used by the general public to describe all of the previously listed conditions.
Investigations Phase 1

Environmental database of environmental and historical land use information:

- Federal, State and local environmental files
- Historical aerial photos
- City directories
- Sanborn Fire Insurance maps
- CTDEP public files
Phase 1  Records Search

• Look at old records like maps, photos, documents, talk to people that may have historical knowledge of site

1886 Sanborn Map

Image: Yale University
Today vs. 1886

IKEA

New Haven Harbor
Phase 2       Sampling Soils and Groundwater

Soil sampling may be drilling or hand auger or other hand tools

Groundwater sampling by monitoring wells
Phase 3
Further evaluation of the extent of contamination
Challenges - Is the site marketable for anything that will produce tax revenue and jobs

• A market analysis is needed to understand what is possible to attract a developer
• Be realistic, many great plans have been produced that had little chance of becoming reality
• A better use may be open space
Challenges-Site Considerations

- What are the uses abutting the site?
- What is the area zoned
- Are you willing to change the zoning?
- Site access/traffic issues
- Fragmented land ownership
Challenges-Planning

• Is the site being developed on its own or is it part of a grand plan?

• Infill v part of a master plan?

• Willing to give tax breaks?
Challenges - Regulatory Process

• Level of cleanup needed for the proposed use
  Industrial v. residential

• Longer Regulatory Approval Process.
  Developer issue with timing

• Conflicting interests of regulatory agencies

• Use restrictions run with the land
Environmental Land Use Restriction

• An ELUR is an easement that is granted to the CT DEEP by the property owner and is recorded on the municipal land records. Its purpose is to minimize the risk of human exposure to pollutants and hazards to the environment by preventing specific uses or activities at a property or a portion of a property.

• Runs with the land and is recorded on the land records
ELUR types

Soil
- Residential Activity Restriction
  - Can't use the site for housing
- Inaccessible Soil Restriction
  - Can't remove structures or barriers that prevent human access to polluted soil
- Env isolated soil + Eng controls
  - Can't remove structures or barriers that prevent water infiltration to polluted soil

Groundwater
- Residential activity restriction
  - Can't use the site for housing
- Building construction
  - Can't build anything on site
- Groundwater use
  - Can't use groundwater for drinking
Challenge - Inaccessible Soil

Can’t remove the building OR
Have to maintain pavement OR
Can’t dig up to more than 4 ft below ground surface
Challenges-Building Condition

• Are the buildings able to be salvaged. Historic preservation considerations

• Structural assessment, building envelope, mechanical systems

• Are the foundations in an adequate condition?

• Leakage areas
Challenges-Funding

• Higher Upfront Capital Costs

• More Limited Financing Options

• Competition for Scarce Resources at both the state and federal level

• Tax Breaks
Benefits of Brownfields Redevelopment:

- Eliminating health and safety hazards;
- Eliminating eyesores;
- Bringing new jobs into the community;
- Bringing new investment into the community;
- Increasing the productivity of the land;
- Increasing property values and tax receipts by local and state governments (the effects of increased property values on poor residents may, however, need to be mitigated);
- Improving the quality of life in a community
Success stories-Connecticut
New London Mills, New London, CT

Current use: office/research space for Electric Boat designing the next generation of nuclear submarines, 1500+ jobs and residential spinoff development

Polychlorinated biphenyls (PCBs), lead, arsenic, volatile organic compounds, petroleum products and an artillery shell
Meeting Street Educational Center
Athletic fields, parking, and 100,000-square-feet of buildings.
Early childhood programs and schools now serve over 7,000 economically disadvantaged children and their families each year.

Lead, arsenic, volatile organic compounds, and petroleum products.

Source: EPA
Success Stories-Massachusetts
United Shoe Machinery Corp   Beverly, MA

Cummings Center has 400 commercial tenants occupying nearly 2 million square feet employing 3,400 workers. In addition, a 15-acre parcel of the for-Spinoff development of a yacht club, a park, a supermarket and retail shops.

Oil, solvents, polychlorinated biphenyl and polycyclic aromatic hydrocarbons

Source: MassDEP
Success Stories - Vermont
Goodyear Industrial Campus  Windsor, VT

Goodyear Tire manufactured rubber shoe and sole parts

Current use; A 500-kilowatt solar array system that contributes towards both the town’s and region’s renewable energy goals

Demolition waste, asbestos and in a floodplain

Source: EPA
Success Stories-New Hampshire
Former Pillsbury Mill, Tilton, NH

Challenges: Waste chemicals, asbestos containing materials (ACMs), storage tanks, and a transformer presumed to contain polychlorinated biphenyls (PCBs)

Source: EPA
Success stories-Maine
TW Dick Mill    Gardiner, ME

Current use: Medical Facility, Residential

Petroleum, asbestos, volatile organic compounds, polycyclic aromatic hydrocarbons, and lead

Source: EPA
Highest and Best Use

Of the 1,000s of brownfields in New England many will have little hope of redevelopment and remain underutilized for decades.
Highest and Best Use

Can we do more to combine clean-up with resilience to climate change

• Address issue of urban heat islands
• Coastal resiliency
Questions?