

*Massachusetts*

## Brownfields Success Stories

Massachusetts Department of Environmental Protection



Kendall Square Redevelopment Project • 2006 Phoenix Award Winner

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MassDEP • One Winter Street • Boston • Massachusetts 02108 • 617-292-5500



# Brownfields Success Stories

## Massachusetts Department of Environmental Protection

### Introduction:

The Commonwealth of Massachusetts leads the way in promoting the cleanup and redevelopment of brownfield sites. With the first privatized cleanup program in the country and innovative financing and liability reduction programs available to both public and private sector parties, Massachusetts has helped over a thousand projects move toward redevelopment.

In 1993, Massachusetts created a privatized waste site cleanup program, shifting direct oversight for the majority of cleanups from the Department of Environmental Protection (MassDEP) to private sector Licensed Site Professionals (LSPs). This program increased the rate of cleanups at brownfields and other contaminated sites throughout the state. Flexibility was built into cleanup standards that allows parties to take the planned future reuse of the site into consideration when undertaking a cleanup, often allowing for time and cost savings. For instance, a site that is targeted for industrial redevelopment does not need to be cleaned to residential standards, provided that a deed restriction is placed on the property to limit its future use.

The creation of incentive programs through the first-of-its-kind brownfields legislation in 1998 significantly accelerated the cleanup and redevelopment of brownfield sites. The Brownfields Act created financial and liability incentives that help parties overcome obstacles in undertaking brownfields projects. The Brownfields Redevelopment Fund, administered by MassDevelopment, was instituted to offer flexible, low-interest funding for assessment and cleanup in eligible areas. The Brownfields Redevelopment Access to Capital program, ad-

ministered by MassBusiness, was created to offer state subsidized environmental insurance for brownfields projects to reduce risks to parties undertaking these projects. The Brownfields Tax Credit program was created to offer up to a 50 percent tax credit on cleanup costs in eligible areas once cleanup is complete. And liability protection was enhanced through both state cleanup laws and the Brownfields Covenant Not to Sue program, offering liability endpoints to specified entities that undertake cleanup projects.

Federal programs have also provided significant resources to Massachusetts' brownfields projects. Over \$40 million in funding from EPA has been awarded to state, municipal, and non-profit entities to help them identify, assess, and cleanup local brownfields sites. HUD has also contributed significant funding to Massachusetts communities through Community Development Block Grants, Section 108 loan guarantees and the Brownfields Economic Development Initiative. Other federal agencies, such as NOAA, the Army Corps of Engineers and the Department of Energy have also helped our projects move forward through grants, loans and technical assistance. Massachusetts is home to three federal Brownfields Showcase Communities (Lowell, Mystic Valley Development Commission and New Bedford), a national Portfields Community (New Bedford) and a national Brightfields project (Brockton).

From large sites to small ones, with uses ranging from housing to commerce to open space, former brownfields in Massachusetts illustrate the many paths to redevelopment success that are available in the Commonwealth.



## Alden Corrugated Container Co. New Bedford

### Site History:

The Alden Corrugated Container Company manufactured cardboard boxes and paper products in downtown New Bedford from 1947 to 1991 on a site that had been occupied by textile manufacturer Taber Mills earlier in the century. After the plant was abandoned in the early 1990s, the City of New Bedford acquired the 4-acre property for non-payment of taxes. In 1995, the abandoned facility suffered a devastating fire and was demolished, leaving large quantities of demolition debris in the former factory's basement, and exposing the surrounding residential neighborhood to a vacant contaminated site. Four large underground storage tanks (USTs) holding petroleum products were largely untouched by the fire.

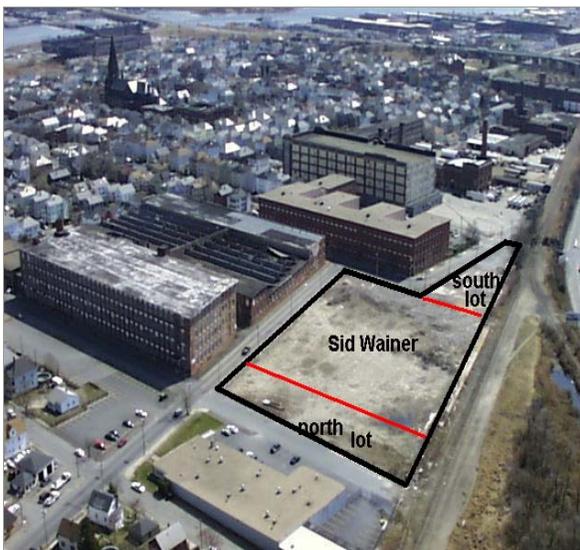
### Environmental Solutions:

In 1999, the City of New Bedford was awarded an EPA New England Targeted Brownfields Assessment grant of service worth \$65,000 and a follow-up Brownfields Assessment grant of \$63,000 for use at Alden Corrugated. Assessment activities indicated that soil and demolition debris at the site were contaminated with poly-



*Sid Wainer & Son's three greenhouses.*

cyclic aromatic hydrocarbons and lead. Working closely with MassDEP staff, city contractors removed roughly 30,000 cubic yards of contaminated soil and debris to a local permitted landfill for a cost of \$500,000. Because of the site's location in a low-income neighborhood with many elderly residents, MassDEP and the Executive Office of Environmental Affairs contributed to the cleanup through an \$80,000 Environmental Justice grant of service. In 2003, the state's contractor removed the four USTs and more than 20,000 gallons of mixed oil and water, allowing redevelopment efforts to proceed without complications from the tanks.



*New Bedford's post-fire subdivision plan for the site.*

### Redevelopment:

The City of New Bedford subdivided the site into several parcels to facilitate redevelopment. The half-acre northern lot was sold to an abutting business that was interested in expanding its operations. The 2.8-acre center lot was sold to Sid Wainer & Son Co., an international specialty foods company that is headquartered in the city. In 2004, the company built three 3,000-square foot greenhouses on the property, which are used to grow specialty warm-weather vegetables and to conduct research in sustainable urban agriculture. Produce from the facility is shipped via a rebuilt railroad siding, which also is used by other local companies. The greenhouse project contributes nearly \$4,000 a year in property taxes to the City of New Bedford.



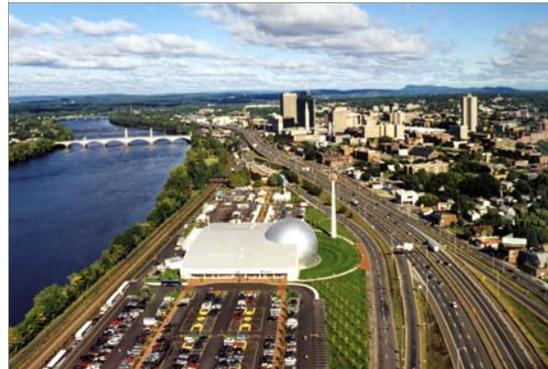
## Basketball Hall of Fame Springfield

### Site History:

Beginning in the middle 19<sup>th</sup> century, corporate predecessors of the Bay State Gas Company ran a manufactured gas plant (MGP) on downtown Springfield's riverfront. In the 1960s, the outdated plant was razed by the Massachusetts Highway Department to clear a path for Interstate 91 through part of the 18-acre MGP site. After road construction was complete, several commercial and light industrial operations and the Basketball Hall of Fame moved into the area. The City of Springfield launched a major riverfront redevelopment plan in the late 1990s which included the replacement of the 'Hoop Hall' with an enlarged and modernized facility and the addition of other tourist attractions.

### Environmental Solutions:

As the city assembled land for its riverfront plan through tax takings and negotiated purchases, it became clear that contamination from the MGP and its industrial successors was impacting the site. MassDEP regional office staff and the City of Springfield's consultant O'Reilly, Talbot & Okun coordinated a complex plan to remediate the multiple contamination sources, leading to the completion of most cleanup work well before regulatory deadlines. Approximately



*Downtown Springfield and the new Hall of Fame.*

5,200 tons of coal tar-contaminated soil were removed and treated off-site to accommodate construction of the new Hall of Fame's parking facility. Additional work was completed to remove cyanide-, gasoline-, lead- and arsenic-impacted soil from several abandoned industrial sites. Cleanup costs at the site were shared among the responsible parties (primarily Bay State Gas) and supported by HUD block grants obtained by the City of Springfield. MGP-related cleanup work along the immediate riverfront continues.

### Redevelopment:

Construction of the \$45 million new Basketball Hall of Fame began in 2000 and was completed in 2002, creating a visually spectacular marker of the city's downtown core. The new 80,000-square foot facility has prompted an attendance increase of nearly 100 percent over the previous Hall, providing a solid anchor for Springfield's waterfront redevelopment. Other users of the former MGP site include a tourist information center, a hotel, restaurants, shops and parking facilities. Current plans envision a wide-screen movie theater and other tourist-friendly additions to the site. Altogether, the riverfront redevelopment project has attracted more than \$103 million in total investment.



*The 'Hoop Hall' under construction.*



# MassDEP Brownfields Success Story



## Genzyme/Kendall Square Cambridge

### Site History:

For close to a century the former Cambridge Gas and Light Company operated a Manufactured Gas Plant (MGP) in Kendall Square. Despite its attractive location, the property remained vacant for over 20 years in part due to significant coal tar contamination. In 1998, Lyme Properties purchased the 10-acre, 6-parcel site from Commonwealth Energy, the successor to Cambridge Gas and Light Company, to redevelop it into a mixed-use development. Approximately 1,300,000 square feet of space for hotel, residential, retail, entertainment, office and life science uses was planned as part of this development, as were two underground parking structures to accommodate up to 2,000 vehicles.

### Environmental Solutions:

MassDEP worked with Lyme Properties and their consultant, the RETEC Group, Inc., to ensure that the remedial actions required under the Massachusetts Contingency Plan allowed for coordinated property redevelopment. Environmental cleanup began in 1999.

Remediation costs exceeded \$25 million. Free phase coal tar waste and petroleum contamination were present over the northern portion of the site. These contaminants were also present in the soil at significant concentrations throughout a large portion of the property. Construction of the main parking garage required that 425,000 tons of contaminated soil be excavated at depths up to 45 feet below grade. Construction of a second parking garage will require excavation and removal of an additional



Cleanup work at the former Cambridge Gas and Light MGP.



Genzyme's new LEED-certified headquarters in Kendall Square.

150,000 tons of soil. Soil auguring with in-situ soil stabilization was conducted throughout a large portion of the area that has now been redeveloped.

Remediation and construction activities were coordinated to streamline the redevelopment process. MassDEP's flexible cleanup regulations allowed permanent closure statements for each of six contamination source areas to be filed individually as cleanup work progressed, greatly facilitating the project's phased redevelopment.

### Redevelopment:

By late 2006, construction of a 1,400-car underground parking garage, an outdoor area, two commercial buildings totaling over 500,000 square feet and 350,000 square feet of residential space was complete. Genzyme Corporation, an internationally recognized biotechnology firm, located their world headquarters on the site in a LEED-rated green building, employing the bulk of the 1,000 people who work at the new complex. Planned future uses include a second underground parking garage and an additional 150,000 square feet of apartments. The Constellation Charitable Foundation has purchased part of the property and begun design of an innovative 85,000-square foot performing arts center. The foundation accessed state-subsidized environmental insurance through the MassBusiness Brownfields Program to make the development feasible.

The Kendall Square redevelopment project is a 2006 recipient of the Phoenix Award for EPA Region One.



## Hampden Color & Chemical Co. Springfield

### Site History:

The Hampden Color and Chemical Company (HC&C) was an active business for almost three decades, from 1970 to 1998. Originally a chemical distribution firm, by the late 1970s the company had expanded into solvent recycling and hazardous waste storage. HC&C received its first license for storing hazardous waste from MassDEP in 1979; in 1983 it was designated as a waste Treatment, Storage and Disposal Facility (TSDF).

In the middle 1990s, with its business in decline, the company conducted an unsuccessful search for buyers. The company's TSDF license lapsed in 1998 and the site was abandoned. The loss of HC&C was a blow to East Springfield, leaving the neighborhood with a vacant contaminated site and without an important employer. In 2002, after years of trying to find a purchaser for the site, the City of Springfield acquired the property in a tax-title action.

### Environmental Solutions:

Even before HC&C's abandonment, it was clear that the site was heavily contaminated. Two releases of trichloroethane into storm drains were reported under the Hazardous Waste Management Act and Massachusetts Contingency Plan (MGL Chapters 21C and 21E, respectively) in the 1980s. In later years, MassDEP found that these spills had been attenuated by natural processes. At the time of abandonment, the 8-acre site held more than 500 containers of solid and liquid waste chemicals, totaling about 7,500 gallons.



*Hampden Color & Chemical's facility after its abandonment.*



*Astro Chemicals in 2006, nearly ready for business at the old HC&C.*

In 2001, money from HC&C's MassDEP-mandated TSDF closure fund was used by state contractors to remove stored chemicals and decontaminate indoor facilities. Two years later, they completed a Phase II site assessment and discovered a toluene release near several underground storage tanks (USTs). EPA grants of \$70,000 in 2003 (for assessment) and \$200,000 in 2005 (for cleanup) allowed city contractors to remove all remaining stored chemicals and USTs and to begin ongoing bioremediation of toluene-contaminated soils. In 2005, MassDEP officially closed the site's TSDF license. The TCE releases from the 1980s were also formally closed out.

### Redevelopment:

In 2003, through a land disposition agreement, the City of Springfield awarded 'preferred developer' status to Astro Chemicals, Inc., a local chemical distributor that was seeking to relocate and expand its operations. Working with MassDEP and the Massachusetts Attorney General's office, the company is funding \$300,000 to \$400,000 in continued toluene cleanup and monitoring and up to \$3 million in building rehabilitation and site maintenance in exchange for liability protection in the form of a Covenant Not to Sue from the Commonwealth. Full business operations are expected to start early in 2007, adding up to 10 jobs to the firm's current workforce. By working together, state, federal and local government and private business are removing blight, protecting water resources and returning jobs to the community of East Springfield.



# MassDEP Brownfields Success Story



## Kerr Mills Fall River

### Site History:

Kerr Mills was a significant landmark of Fall River’s industrial past. Clothing and furniture manufacturers and various retail outlets occupied the multi-story mill buildings from the mid-1800s until 1987. In January of 1987 a massive fire destroyed the former mill complex. Despite the site’s strategic location at the intersection of Route 24 and Interstate 95, derelict site conditions and contamination unknowns hindered its redevelopment potential. The fire was an economic disaster for hundreds of workers employed in various manufacturing and retail jobs located in the complex.

### Environmental Solutions:

Past operations at this site resulted in volatile organic compound and petroleum hydrocarbon contamination in groundwater and subsurface soils. MassDEP worked closely with the project’s environmental consultant to resolve environmental issues. Cleanup work at the site involved installation of a sub-slab depressurization system and implementation of three Activity and Use Limitations (AULs). AULs allow developers to implement cleanup standards that are appropriate



*Kerr Mills burns to the ground in 1987.*



*UMass Dartmouth’s innovative ATMC.*

for the property’s planned use, while restricting future property use through a recorded deed restriction. In 2002 a permanent closure was filed for the site under the state’s cleanup regulations.

### Redevelopment:

While recognizing the site’s significant redevelopment potential, the City of Fall River was also concerned by health threats posed by post-fire conditions. City officials decided to address both aspects simultaneously by partnering with MassDEP, MassDevelopment, MassBusiness, and UMass Dartmouth to facilitate the cleanup and redevelopment of this site into a state-of-the-art research complex.

MassDevelopment financed and managed the 14-month construction of the Advanced Technology and Manufacturing Center (ATMC), the anchor for the redevelopment of this site. The 60,000 square foot state-of-the-art facility is a center for research and development of new and emerging technologies. An additional 200,000 square feet of the site will eventually be developed as the SouthCoast Research and Technology Park, which will be based around the ATMC. State-subsidized environmental insurance through the Brownfields Redevelopment Access to Capital (BRAC) Program was used to reduce project uncertainties. Not only has the ATMC created 120 new jobs, it has generated intellectual capital to fuel emerging companies and create new technologies.



## Marblehead MGP Marblehead

### Site History:

Corporate predecessors of the Massachusetts Electric Company operated a manufactured gas plant (MGP) on Marblehead's waterfront from the 1850s until 1911. In the days before electricity was widely available, the plant provided fuel for lighting and cooking in Massachusetts' North Shore region. The site fell into disuse after the plant's closure, and a handful of homes and businesses eventually were built on contaminated land inside the former industrial footprint.

As part of a corporate site investigation and remediation strategy designed to control liability at legacy sites, the company surveyed many of its MGPs in the mid-1990s, including the one in Marblehead. National Grid assumed liability for the site's contamination following its purchase of the Massachusetts Electric Company in 2000.

### Environmental Solutions:

During site investigation, polycyclic aromatic hydrocarbons and coal tar were found in the soil and groundwater, affecting four residences and a commercial property on the site. National Grid began Immediate Response Action activities early in 1995 by assess-



*Environmental contractors install the engineered barrier.*



*Looking out to sea from National Grid's new park in Marblehead.*

ing the potential for vapor intrusion into homes. The company continued investigation and remedial design work through the mid-1990s and in 1998, consultant Maxymillian Technologies excavated and disposed of 700 tons of contaminated soil from one of the impacted residential properties.

Early in 2002, National Grid used MassDEP's flexible cleanup standards to install an engineered barrier to permanently isolate the remaining contaminants at two former residential lots where soil removal was impractical. By building a barrier rather than removing further soil, National Grid saved both time and money, and spared the historic and densely developed local neighborhood from the potential negative impacts of more intensive remediation activities. A permanent closure will be filed for the site once ongoing passive coal tar collection is complete.

### Redevelopment:

MassDEP's flexible standards enabled National Grid to efficiently safeguard nearby Marblehead residents and to add much-needed green space to a densely-populated community. Because residential reconstruction was impossible where the engineered barrier was installed, the company sought an alternate use for the site. Based on input from local residents and the town, in 2002-2003 the one-acre site was converted into a seaside park, featuring an open lawn, decorative gardens and a small beach.



# MassDEP Brownfields Success Story



## MASS MoCA North Adams

### Site History:

More than one hundred years of industrial history were made where two branches of the Hoosic River meet in downtown North Adams. Originally used for purposes ranging from shoemaking to iron forging, the riverfront site was bought by textile manufacturer Arnold Print Works in 1860. The company expanded rapidly by supplying the US Army during the Civil War, and by 1905 almost 3,200 people worked at its 13-acre facility. When Arnold Print moved out in 1942 after struggling through the Depression years, the site was purchased by the Sprague Electric Company, a manufacturer of electronic components for the US military. Sprague Electric flourished during WWII and the Cold War, employing up to 4,100 workers in a town of only 18,000. Unable to compete with low-priced components made overseas, Sprague ceased operations at North Adams in 1985, devastating the local economy and leaving behind decades of industrial contamination.

### Environmental Solutions:

MassDEP became involved at the site even before Sprague Electric ceased operations. Site investigation following a tank spill in 1983 revealed contamination by polychlorinated biphenyls (PCBs) and trichloroethylene. Sprague's environmental consultant, HMM Associates, Inc., began remediation work in 1989 by removing 600 tons of soil and debris impacted by volatile organic compounds and heavy metals. A 1990 risk assessment determined that all aboveground facilities in the northern portion of the site posed no significant risk to human health or to the environment. In the early 1990s, more than 400 tons of PCB-contaminated soil and loading dock materi-



*Aerial view of the former Sprague Electric complex in North Adams.*



*Plaza at MASS MoCA.*

als were removed from the southern area of the parcel and disposed of at off-site landfills. A 20,000-square foot cap was constructed to isolate the remaining contaminants. In the late 1990s, the City of North Adams obtained a Brownfields Assessment grant from EPA, which was used by new consultant Blasland, Bouck & Lee to investigate groundwater and additional soil contamination. Two contaminated buildings were demolished in 2003. Though cleanup and assessment work is ongoing in some parts of the site, the historic mill buildings are safe for most uses.

### Redevelopment:

Within a year after Sprague Electric's closing, local academic, political and business leaders embraced the idea of transforming the historic industrial site into a contemporary arts center. The Massachusetts Legislature agreed to support the project in 1988, and by the early 1990s site planning was underway for the Massachusetts Museum of Contemporary Art, or MASS MoCA. The \$31.4 million museum – supported by \$22 million in state funds – was opened in 1999. Its 19 galleries total more than 100,000 square feet of exhibition space, in addition to 40,000 square feet of performance areas, support facilities and artist workspace. A second phase of redevelopment added 60,000 square feet of office and retail space to the museum site in 2003, using close to \$12 million in state and federal grants and loans. Today, MASS MoCA hosts more than 120,000 visitors annually, and 350 people are employed at the former Sprague campus. After more than a decade of work, the disappointment of Sprague Electric's closing has been transformed into a magnet for tourism, culture and commerce in western Massachusetts.



# MassDEP Brownfields Success Story



## North Common Sites Lawrence

### Site History:

Only a few blocks from the industrial heart of Lawrence, the North Common neighborhood has been home to generations of blue-collar workers and immigrants. When the city's manufacturing base declined beginning in the 1920s, many homes and businesses in the densely built area were abandoned, leaving behind contaminated sites and creating opportunities for illegal dumping of waste. Quality of life in the neighborhood was diminished. Working in partnership with the City of Lawrence, two local community groups – Lawrence CommunityWorks and Groundwork Lawrence – initiated efforts to redress the situation by redeveloping local vacant lots as affordable housing and open space.

### Environmental Solutions:

The community groups selected two contaminated North Common sites for redevelopment as part of a larger vision for neighborhood renewal. In 2005, more than \$90,000 from MassDevelopment's Brownfields Redevelopment Fund provided crucial gap funding for assessment and remediation of five vacant lots at the corner of Union and Mechanic Streets. Lead and other hazardous materials were found in very low concentrations, which allowed contractors to file a permanent closure for the site without doing cleanup work.

Two blocks away on Brook Street, the 2.7-acre riverfront site of a former industrial laundry required a more involved cleanup process. Site assessment revealed the presence of petroleum hydrocarbons and other contaminants in both soil and groundwater. Beginning in 2003, DBT Corporation, trustee for the site's former owner, funded over \$1.5 million in assessment and remedial work. Approximately 2,250 cubic yards of contaminated soil and a concrete slab were removed from the site. DBT received li-



*Newly-planted community gardens.*



*The gazebo at Dr. Nina Scarito Park on Brook Street in Lawrence.*

ability protection through a Covenant Not to Sue from the Massachusetts Attorney General's office while cleanup work was being conducted. In 2005, the company's consultants filed for a permanent closure under state cleanup regulations, allowing the site to be redeveloped for use as a park. The City of Lawrence took ownership of the site from DBT after cleanup was complete.

### Redevelopment:

Cleanup of these two sites resulted in significant benefits to the North Common neighborhood. At Union and Mechanic Streets, CommunityWorks and Groundwork Lawrence used \$30,000 from the Office of Coastal Zone Management to design and implement an integrated plan for affordable homes and an adjacent 3,800-square foot community garden. The development incorporates rain gardens and selective grading techniques to minimize its demands on Lawrence's sewer system. MassHousing contributed nearly \$180,000 to help build the first five housing units, which were completed in 2006.

The Brook Street site was redeveloped in the summer of 2006 as part of the Spicket River Greenway, an evolving network of riverfront parks and trails. Now known as Dr. Nina Scarito Park, the site offers walking paths and open lawns, picnic areas, a community garden, a basketball court and playgrounds, enhancing quality of life in one of Lawrence's most densely populated and historically underserved neighborhoods. DBT Corporation and Bank of America contributed \$200,000 toward construction of the park, and an early commitment of \$50,000 from EPA's Brownfields Supplemental Assistance program provided critical funding for park design. These funds were matched by a \$325,000 grant from the Executive Office of Environmental Affairs' Urban Self-Help program and by funding from the City of Lawrence's CDBG program, which supported park construction.



## Saint Vincent Hospital Worcester

### Site History:

In 1992, two of the largest health care providers in Worcester teamed to build a \$200 million integrated health facility on a 24-acre site near Interstate 290. The project area was comprised of 32 parcels containing abandoned commercial and industrial structures, 8 roadways, and several non-profit providers and empty lots that were part of the East Central Urban Renewal Area, an economic opportunity zone that had been established 25 years earlier. The city acquired the sites through eminent domain and initiated cleanup and site preparation activities in partnership with MassDEP, MassHighway, the Worcester Redevelopment Authority and California-based Tenet Healthcare Company.



Photo Courtesy of Worcester Medical Center

*Atrium at Saint Vincent's.*



Photo Courtesy of Worcester Medical Center

*Portico entranceway at Saint Vincent Hospital in downtown Worcester.*

### Environmental Solutions:

MassDEP's Central Regional Office worked closely with the City of Worcester and other project leads on predevelopment activities that included demolition and asbestos removal, relocation of rail lines, and site grading. The Mill Brook sewer, a combined sewer that carried both storm-water and sewage, had to be relocated.

The project area consisted of seven hazardous waste sites with complex contamination, multiple exposure pathways and high public visibility. Soil and groundwater were contaminated with chlorinated solvents, polychlorinated biphenyls, total petroleum hydrocarbons and metals. The quantity of soil treated or removed exceeded 20,000 tons.

### Redevelopment:

This project resulted in the development of a nine-story, 350-bed medical facility in downtown Worcester, known as Saint Vincent Hospital. Several major changes were made to the local infrastructure to accommodate this development, including building a separate highway ramp to service the facility, rerouting an underground culvert for the Blackstone River and installing a new sewer system.

The city has estimated that the project will provide close to \$2 billion in economic benefit over the next 20 years, with 1.5 million visitors annually. 1,000 new construction jobs were created and 2,400 jobs were relocated to Worcester's downtown.

Project proponents obtained liability protection under the pre-1998 Covenant Not to Sue Program. This program was an early version of the Brownfields Covenant Not to Sue Program created through the Brownfields Act.



# MassDEP Brownfields Success Story



## United Shoe Machinery Corp. Beverly

### Site History:

The United Shoe Machinery Corporation’s 95-acre Beverly facility produced equipment for use in footwear manufacturing for nearly nine decades. At its peak, more than 5,000 people were employed at ‘The Shoe’, working in what was once the world’s largest reinforced concrete structure. In 1987 the company was broken up by court order and manufacturing operations were relocated to another site, leaving the former machine plant nearly vacant. Cleanup regulations in force at the time complicated further attempts to redevelop or resell the site. The introduction of MassDEP’s flexible, privatized cleanup program in 1993 gave new life to redevelopment efforts.

### Environmental Solutions:

Comprehensive assessment and remedial investigation work by environmental consulting firm Haley & Aldrich in the late 1980s and early 1990s determined that parts of the site had been impacted by oil, solvents, polychlorinated biphenyl and polycyclic aromatic hydrocarbons. The company conducted bioremediation, oil recovery and other interim cleanup work to mitigate contaminant source areas, registering a temporary solution for the site after the privatized cleanup program was instituted. In the middle ‘90s, contaminated soils were excavated, treated and re-used on-site, saving considerable disposal costs for the owner, and leading to a permanent closure filing in 1997.

Under MassDEP’s flexible new cleanup program, an Activity and Use Limitation (AUL) was recorded on the property. An AUL allows a developer to imple-



*A small portion of the 2 million-square foot Cummings Center.*

ment cleanup standards that are appropriate for the planned property use, and restricts future property use through a recorded deed restriction. Because the United Shoe site was targeted for commercial and industrial redevelopment, obtaining an AUL reduced costs and saved time in comparison to cleaning the site to residential standards. Following the site’s sale in 1995, the new owner also obtained a Covenant Not to Sue from the Massachusetts Attorney General’s Office – one of the first in the state – limiting its liability for cleanup costs. In combination, these measures made the site’s cleanup, sale and redevelopment economically feasible.

### Redevelopment:

In 1995, most of the 95-acre site was sold to Cummings Properties, a local real estate firm, for \$500,000 plus up to \$1 million in cleanup costs, and the site was renamed Cummings Center. Taking advantage of state designation as an Economic Opportunity Area and of tax-increment financing (TIF) arranged by the City of Beverly, the site’s new owner committed to spend \$16 million on building rehabilitation. Cummings’ investment so far is approximately \$65 million. Today, around 400 commercial tenants – from Microsoft to North Shore Community College – occupy nearly 2 million square feet in the former shoe machinery plant and in several new buildings on the site, employing 3,400 workers. In addition, a 15-acre parcel of the former United Shoe property adjacent to the Cummings Center has been redeveloped for use as a yacht club, a park, a supermarket and retail shops. Working together, state and local government and private business have revitalized one of suburban Boston’s largest employment centers.



*A train arrives at United Shoe Machinery in the 1940s.*



## Walkers Brook Landfill Reading

### Site History:

For more than half a century, the Town of Reading operated a municipal solid waste landfill near Walkers Brook. Waste disposal operations at the 30-acre landfill had been ceased for several years when the town began to develop ambitious reuse plans in 1984. Environmental engineering firm Haley & Aldrich was hired the following year to conduct site assessment work in preparation for cleanup and redevelopment.

Despite the town's reuse plans and the site's appealing location adjacent to an I-95 interchange, the former dump remained vacant for more than a decade. In 1995, MassDEP ordered the landfill to be capped and closed permanently. The town selected Dickinson Development Corporation in 2000 to close the landfill and to redevelop it. Dickinson and town officials reached agreement with MassDEP to fund final closure of the landfill and to redevelop it as a retail complex. In March of 2003, Dickinson purchased the site from the town and by late 2004 several major retail businesses were operating at the newly renamed Walkers Brook Crossing.

### Environmental Solutions:

Assessment and cleanup operations were highly complex due to the site's history, size and location next to Walkers Brook. Haley & Aldrich conducted hydrogeologic and geotechnical investigations in the 1980s to gather initial data about the landfill and its contaminants. After Dickinson joined the project in 2000, that company and its consultants worked with MassDEP to develop an innovative plan for remedial action under the Solid Waste



Walkers Brook and its new retaining wall.



Walkers Brook Crossing at night.

Statute, MGL Chapter 111. When redevelopment work was underway in 2003, MassDEP and Haley & Aldrich worked closely to refine the remedial design, allowing work to proceed without delays due to environmental permitting.

To protect the local environment within state guidelines, the development team built a mechanically-stabilized-fill retaining wall around the site perimeter, and capped the landfill using advanced geosynthetic materials. The anchor retail building was built above the cap on piles driven into glacial deposits above the bedrock. Long-term safety at the site was ensured by the construction of advanced underground systems for storm water drainage and landfill gas management. In February of 2006, MassDEP determined that the landfill had been closed appropriately. The cost of site work totaled \$17 million, including wall construction, capping and closure.

### Redevelopment:

Today, Walkers Brook Crossing consists of 400,000 square feet of retail space, constructed for a total of \$90 million. Shops there – ranging from restaurants to big box retailers The Home Depot and Jordan's Furniture – employ more than 1,000 workers and contribute \$620,000 a year in taxes to the community. State funding and incentive programs were instrumental in making the project feasible financially. The Town of Reading received \$1.8 million from the legislature to improve infrastructure and to mitigate traffic around the site. The Brownfields Access to Capital (BRAC) program, run by MassBusiness, also funded 25 percent of the developer's environmental insurance premium. In addition to the property's sale price of \$3 million, Reading officials have estimated that working with MassDEP and Dickinson Development to guarantee landfill closure saved the town \$5 million in closure costs.

***Learn more about the innovative programs available in Massachusetts that can help your project move forward:***



- The privatized Waste Site Cleanup and Licensed Site Professional programs
- Assessment and remediation funding through the Brownfields Redevelopment Fund and other state sources
- State-subsidized environmental insurance through the Brownfields Redevelopment Access to Capital program
- Brownfields Tax Credit for cleanup costs
- Local Tax Increment Financing (TIF) and other tax incentives through the Economic Development Incentive Program
- Municipal Tax Abatement Provision that allows municipalities to negotiate back taxes for brownfields projects
- Liability protection under the state cleanup law, MGL Chapter 21E, and through the Covenant Not to Sue program

Visit <http://mass.gov/dep/cleanup/brownfld.htm>

Or contact Catherine Finneran at [catherine.finneran@state.ma.us](mailto:catherine.finneran@state.ma.us) or 617-556-1138



The new Basketball Hall of Fame in downtown Springfield