

Executive Summary

A former chemical and glue manufacturing facility in Woburn, Massachusetts, now supports a bustling regional transportation center, a thriving commercial and light industrial area, restored wetlands and open space. Transportation infrastructure projects have improved access to site businesses, removed cars from area roads, and reduced congestion around Boston. An innovative, collaborative approach to the cleanup and redevelopment of the Industri-Plex Superfund site Operable Unit 1 (OU1) allowed existing businesses to stay open during cleanup. The effort brought EPA together with the community, state and local agencies, and area landowners and developers. This case study explores the site's award-winning cleanup and reuse, illustrating the beneficial effects of Superfund redevelopment in action.

Beneficial Effects

- Raytheon, Woburn's largest employer, employs about 1,100 people at its 438,000-square-foot facility on site, contributing \$174 million in annual employment income to the community.
- Forty-five other businesses on site support more than 820 jobs and contribute more than \$36 million in annual employment income to the local community. These businesses generate more than \$120 million in annual sales.
- The total assessed value of land and improvements on site was nearly \$149 million in 2013, generating more than \$3.7 million in local property taxes.
- The Anderson Regional Transportation Center serves an average of over 1,200 Boston-bound commuter train riders daily and almost 20,000 Amtrak riders annually.

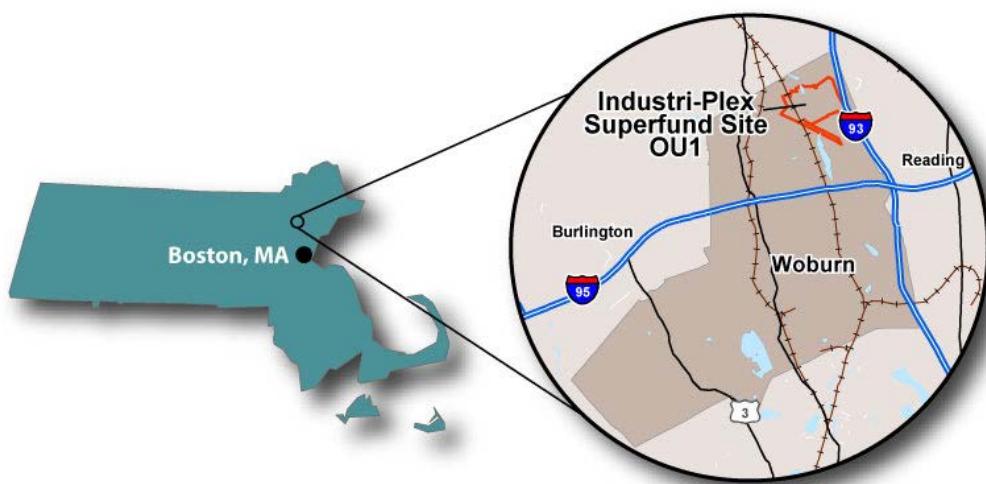


Figure 1. The site's location in Woburn, Middlesex County, Massachusetts

Introduction

When a Superfund site property is restored for reuse, it can revitalize a local economy with jobs, new businesses, tax revenues and local spending. This case study captures the beneficial effects of continued use, new development, and wetlands and open space use at the Industri-Plex Superfund site.

The Industri-Plex Superfund site is located in Woburn, Massachusetts, 12 miles northwest of Boston. Situated at the north end of the community along Interstate-93 (I-93), the site is surrounded by dense commercial and industrial development. According to the U.S. Census Bureau's American Community Survey, nearly 39,000 people live in Woburn.¹

EPA divided the site into two areas, or operable units (OUs), for cleanup. Covering 245 acres, OU1 addresses site soil, sediment and air contamination and interim ground water remediation. OU2 addresses area-wide ground water contamination in conjunction with cleanup of part of the Wells G&H site. This case study focuses on the cleanup and redevelopment of OU1.

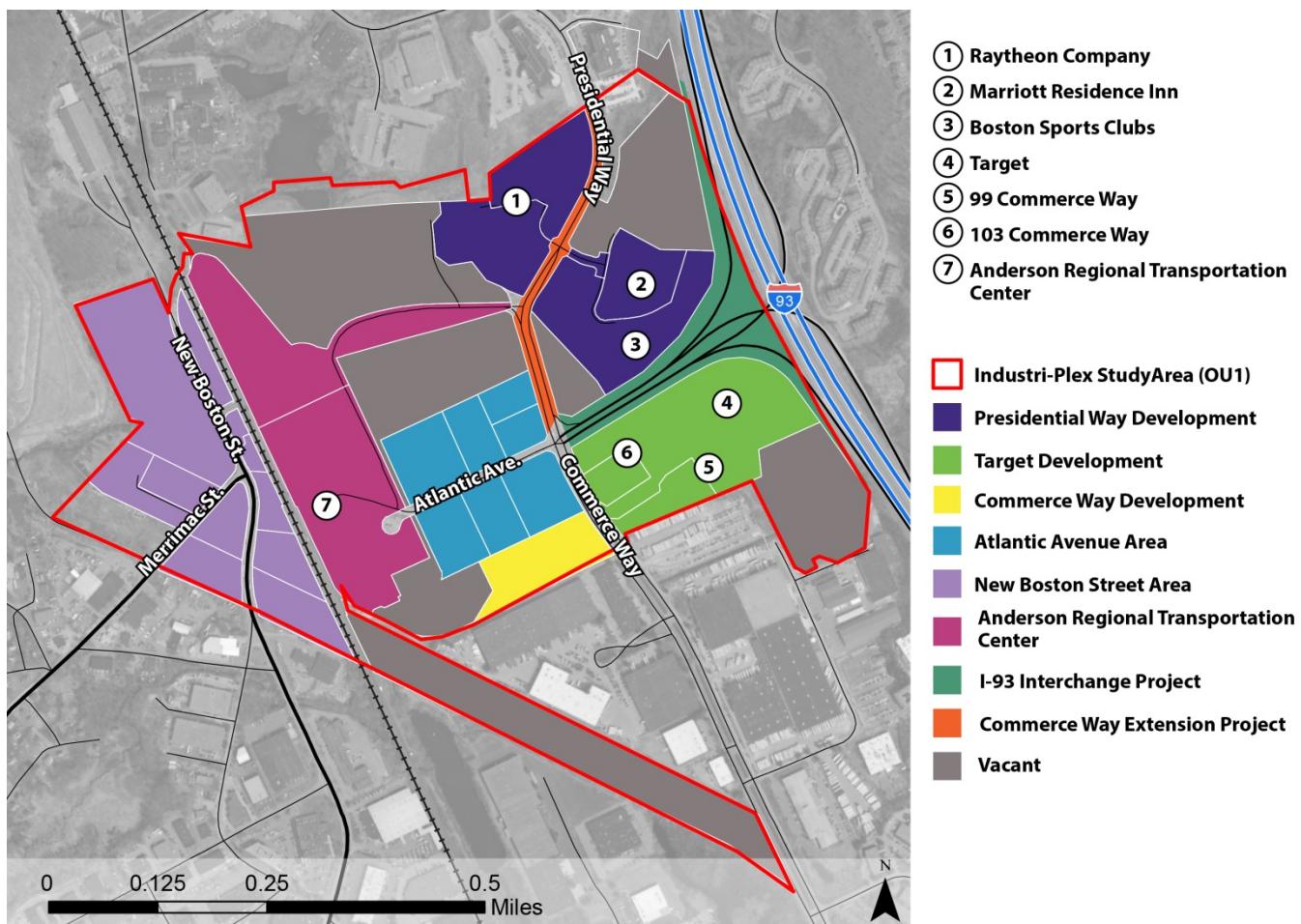


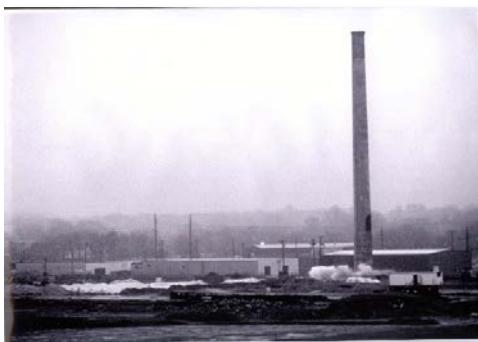
Figure 2. Aerial view of major site uses and reuses

¹ 2012 Census data obtained from State & County QuickFacts at <http://quickfacts.census.gov/qfd/states/25/2581035.html> on April 18, 2014.

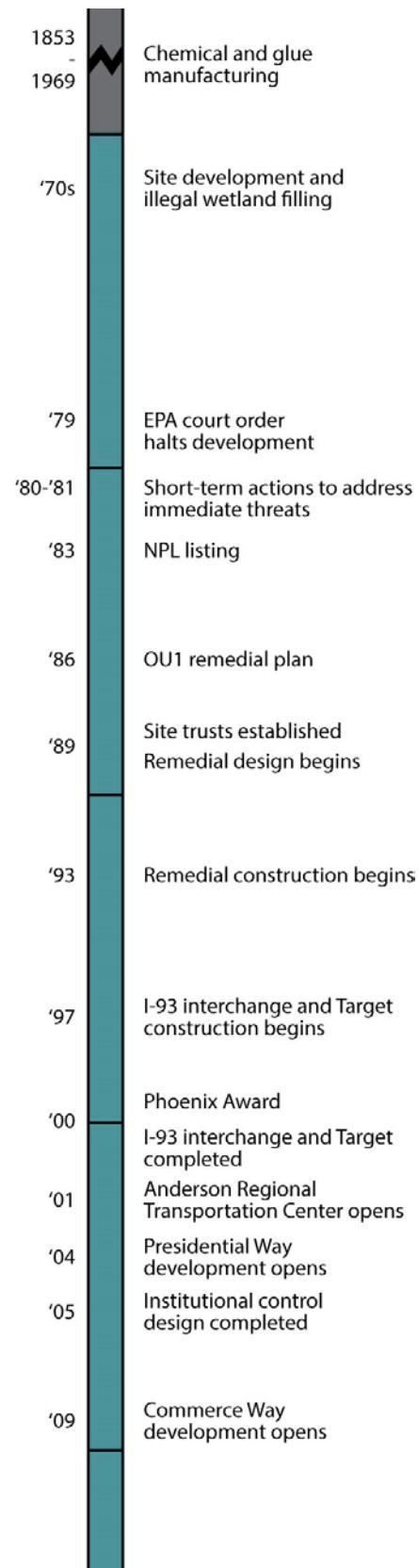
Site History

Served by the Middlesex Canal and the Boston & Lowell Railroad in the 19th century, Woburn was once a center of leather production, shoe making and tanning industries.² Manufacturers on the Industri-Plex property supported the chemical and glue industries for over 110 years, producing lead-arsenic insecticides, acetic acid and sulfuric acid, as well as glue from raw animal hides and chrome-tanned hide wastes, from the 1850s until 1969. Improper material handling and waste disposal practices contaminated soil and ground water with metals and volatile organic compounds (VOCs).

In the 1970s, a developer purchased the site property and began preparing the area for industrial use. Development preparation activities included the excavation of wastes and animal hides, relocation of these materials in piles on site, and illegal filling in of wetlands. The hide piles released hydrogen sulfide gases into the air and toxic metals into adjacent wetlands. In response to the illegal wetland filling, EPA obtained a court order to halt development activities in 1979. However, prior to EPA's involvement, the developer had subdivided and sold many site parcels. In 1980 and 1981, EPA and the Commonwealth of Massachusetts took a series of initial short-term actions to address immediate threats posed by the contamination, including restricting access and temporarily covering contaminated areas. EPA placed the site on the Superfund program's National Priorities List (NPL) in September 1983.



Figures 3 and 4. Site prior to cleanup and redevelopment



² Historic Woburn. City of Woburn. Available at <http://www.cityofwoburn.com/index.aspx?NID=648>. Accessed April 18, 2014.

Site Cleanup and Transformation

Efforts at the Industri-Plex site illustrate how partnerships can support the productive reuse of contaminated properties. The Site Remedial Trust and the Site Custodial Trust, created as part of a 1989 settlement between EPA, the Massachusetts Department of Environmental Protection (MassDEP), the City of Woburn, and current and former landowners, have guided the cleanup and redevelopment of the site. The trusts' work has successfully integrated remedial and redevelopment considerations, resulting in a remedy that is protective of human health and the environment *and* supports the site's productive economic use.



Figure 5. Cleanup underway on site

Under EPA oversight, the Site Remedial Trust has been responsible for funding the site's remedy, putting it in place and maintaining it over time. OU1 cleanup activities included demolishing on-site buildings; treating contaminated ground water; covering contamination using soil, clay, synthetic layers, concrete foundations and asphalt; and collecting and treating gases trapped under these contamination covers.

Under the trusteeship of Resources for Responsible Site Management, a subsidiary of Greenfield International, the Site Custodial Trust worked closely with the community and with federal, state and local officials to promote redevelopment.

The trust assumed title to about half of the site property from the developer in exchange for liability relief and then sold off the developable parcels over time. Redevelopment efforts focused on transportation infrastructure improvements and several private commercial projects.

Transportation Infrastructure Improvements

EPA worked with the Site Custodial Trust to enter into agreements with the Massachusetts Port Authority (MPA), the Massachusetts Bay Transportation Authority (MBTA) and the Massachusetts Highway Department (MHD) to facilitate the completion of three important transportation projects:

- **I-93 Interchange:** Construction of this interchange on the eastern side of the site took place between 1997 and 2000. The interchange has helped alleviate traffic congestion in the area and provides direct access to the Anderson Regional Transportation Center on site.
- **Commerce Way Extension:** Expanded roadways improved access to site properties, improved traffic conditions in the area, and act as covers for contaminated soils. In addition, remediation contractors used clean fill to construct utility corridors, preventing exposure to soil contamination during installation and maintenance of underground utilities.³



Figure 6. New I-93 interchange

³ A Model for Redeveloping Complex, Highly Contaminated Sites — the Industri-Plex Site in Woburn, Massachusetts. C. N. Brooks. WIT Transactions on Ecology and the Environment, Vol 94. Available at <http://g-etg.com/pdf/Industri-plex%20article%20by%20Cindy%20-%20A%20Model%20for%20Redevelopment.pdf>.

- **Anderson Regional Transportation Center:** To allow for the construction of this valuable community asset and improve the remedy's protectiveness, EPA allowed for an adjustment of the remedial action schedule and permeable cap design for a 36-acre area. The adjustment increased the depth of the cap and added an asphalt parking lot to prevent exposure to contaminated soils. The Anderson Regional Transportation Center opened in 2001. It provides passenger rail, commuter train and bus service to the community.

In return for donating land for these projects and funding the interchange design, the Site Custodial Trust was able to secure \$50 million in public capital from the state transportation agencies for the construction of these projects.⁴

Private Redevelopment Projects

The large investment of public capital in site infrastructure sent a strong signal to private investors and helped to remove any remaining site stigma. EPA and the Site Custodial Trust worked with private developers on three significant projects:

- **Presidential Way:** The Commerce Way extension improved connectivity to this 30-acre property on the north end of the site, making it a good location for investment. EPA entered into a prospective purchaser agreement with the developer in 1999. Raytheon Company, Marriott Residence Inn and Boston Sports Clubs opened in 2004.
- **Target Store:** Located next to the planned I-93 interchange, this 20-acre area was an attractive investment opportunity. In 1997, EPA entered into a prospective purchaser agreement with the Dayton Hudson Corporation and National Development. MassDEP, the City of Woburn and the company worked together to facilitate the development. Scheduled to coincide with the completion of the I-93 interchange, a Target store and two shopping strips opened in 2000.



Figure 7. Bike parking at Anderson Regional Transportation Center

The Rate of Return on Transportation Investments

The Commonwealth of Massachusetts' \$50 million investment in transportation infrastructure improvements at the site has yielded multiple returns. Public transit operations such as the Anderson Regional Transportation Center are a long-term source of jobs, in addition to providing short-term jobs during construction. Nationally, each dollar in public transit-related capital spending returns an estimated \$3 in business sales and 35 cents in tax revenue. In addition, public transportation reduces transportation costs for individuals and increases business productivity. It also alleviates congestion, which cost Americans \$121 billion in 2011.⁵

For more information, see the American Public Transportation Association's *Economic Impact of Public Transportation Investment*, available at http://www.apta.com/resources/reportsandpublications/Documents/economic_impact_of_public_transportation_investment.pdf.

⁴ Ibid.

⁵ U.S. Department of Transportation Federal Highway Administration. Focus on Congestion Relief. Available at <http://www.fhwa.dot.gov/congestion/>.

- **Commerce Way:** Redevelopment across Commerce Way from the Target store began in 2008. EPA worked closely with the developer to put institutional controls in place and make sure construction work plans protected the remedy. A PetSmart, Chipotle Mexican Grill and furniture store opened in 2009.

Institutional controls were also an important part of each of these projects. During property acquisitions, these legal and administrative tools had not yet been established. EPA worked with the purchasers to address their concerns about land use restrictions and their potential effects on land values, sharing information about the institutional controls throughout their development. EPA required interim institutional controls to be recorded during the sale of each parcel; final institutional controls design was established in 2005. To help landowners understand the remedy and the associated use and activity restrictions on each of 31 properties, EPA published Cover Certification Reports in 2008. Through the sales of site properties, the Site Custodial Trust has been able to recover \$23 million in proceeds.⁶ While institutional controls prevent industrial, commercial, residential and agricultural uses on the land containing animal hide piles, these hide piles have drawn interest as a possible location for ballasted solar power infrastructure facilities.

Supporting Continued Use on Site

It was also a project priority to make sure existing businesses on site could remain open during cleanup. To facilitate the safe continued use of these properties, EPA allowed paved areas and buildings to stay in place as caps for the soil contamination. EPA also entered into prospective purchaser agreements with owners of two of the already developed properties.

Prospective Purchaser Agreements (PPAs)

PPAs played an important role in the site's redevelopment. Nationally, EPA has since taken additional steps to make the acquisition and redevelopment of Superfund sites easier for prospective purchasers. Under the Brownfields Revitalization Act, a prospective purchaser need no longer negotiate a PPA with EPA and the federal government. In lieu of a signed agreement, the purchaser can meet requirements to become a bona fide prospective purchaser (BFPP). For more information about BFPP requirements, please see: <http://www2.epa.gov/enforcement/bona-fide-prospective-purchasers>.

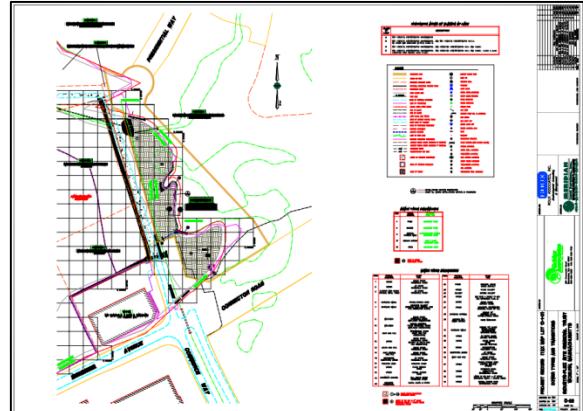


Figure 8. Cover Certification Reports provide detailed descriptions of remedial features

⁶ Sales figures adjusted for inflation to 2013 dollars.

Beneficial Effects

Redevelopment of the Industri-Plex site has relieved local road congestion and improved public transit in the region, created jobs and services for the community, and protected valuable wetlands. Today, on-site businesses provide employment income and help generate state sales and property tax revenues for the City of Woburn.⁷ The site is home to Raytheon, Woburn's largest employer, which provides 1,100 local jobs. Other on-site businesses include retailers such as Target, PetCo and PetSmart, as well as light industrial facilities and suppliers of tile, furniture and landscaping materials. In addition, on-site wetlands have been created and restored. This section describes the beneficial effects of the transportation improvements and commercial and light industrial reuses at the site.

Why Are Wetlands Economically Important?

Wetlands provide a wide variety of benefits, including flood control, water quality improvement, fish and wildlife habitat, and recreation amenities. Replacing the water treatment services they provide with manmade facilities, for example, would be expensive. Worldwide, wetlands are estimated to provide \$14.9 trillion in ecosystem services. To learn more, see EPA's *Economic Benefits of Wetlands* fact sheet, available at <http://water.epa.gov/type/wetlands/outreach/upload/EconomicBenefits.pdf>.



Figure 9. Wetlands at Industri-Plex site

Presidential Way Development

Located at the north end of the site, this 38-acre development is home to Raytheon's offices, a Marriott Residence Inn and Boston Sports Clubs. The Site Custodial Trust sold the parcels to developers for \$6.4 million in 1999. The assessed value of the parcels is now over \$70 million.⁸

Raytheon

Woburn's largest employer, Raytheon, provides defense, electronics, space, information technology and support services to the U.S. Department of Defense and other customers.⁹ The firm's 438,000-square-foot Missile Defense Center opened on site in 2004.¹⁰ The facility is one of 11 major operational locations that support the firm's Integrated Defense Systems business segment, which accounted for \$5 billion in net sales in 2012.¹¹ The facility



Figure 10. Raytheon facility on Presidential Way

⁷ The Massachusetts Sales and Use tax rate is 6.25 percent. To learn more, visit <http://www.mass.gov/dor/all-taxes/sales-and-use>.

⁸ All property values are in 2013 dollars, adjusted for inflation. This figure includes the value of two vacant parcels.

⁹ Haggerty, Jim. Raytheon in Woburn Becomes Heart of U.S. Ballistic Missile Defense Efforts. Daily Times Chronicle. July 7, 2004. Available at http://www.cummings.com/articles/raytheon_missle_defense_center.htm.

¹⁰ Press Release: Raytheon to Establish Missile Defense Center in Woburn, Mass. Available at <http://www.prnewswire.com/news-releases/raytheon-to-establish-missile-defense-center-in-woburn-mass-73374812.html>.

¹¹ Raytheon 2012 Annual Report. Available at <http://investor.raytheon.com/phoenix.zhtml?c=84193&p=irol-reportsannual>.

employs 1,100 people, contributing an estimated \$174 million in annual employment income to the community. The two parcels that make up the facility property sold for \$3.4 million between 1999 and 2004. The parcels' 2013 assessed value is \$56.7 million.

Marriott Hotel

Across the street from Raytheon's facility, the seven-story, 149-suite Marriott Residence Inn employs 40 people, contributing an estimated \$1.2 million in annual employment income to the community. Annual sales are reported at \$1.5 million. Purchased by the developer in 1999 for \$118,000 per acre, the property and its improvements are assessed at \$1.5 million per acre today.

Boston Sports Clubs

One of 160 Town Sports International facilities in the Northeast and 30 in the Boston area, Boston Sports Clubs offers membership-based fitness facilities and services, including group classes, training and sports facilities.¹² The facility employs 35 people, contributing an estimated annual employment income of \$655,200 to the community. Estimated annual sales for the facility are nearly \$3 million. The assessed value of the 9.76-acre property has increased from its 1999 sales price of \$118 million per acre. In 2013, it was assessed at \$4.8 million and sold for \$12.1 million.

Target Retail Development

With direct access to I-93, this busy retail development on Commercial Way hosts 15 businesses in three buildings. The Site Custodial Trust sold the property to developers in 1997 for \$835,000 per developable acre. Today, the properties on this 20-acre development are worth between \$900,000 and \$1.5 million per developed acre.

Target Corporation

The anchor of this commercial development, the Target store is one of 1,778 stores nationwide.¹³ With about 150 employees, the store contributes an estimated \$2.9 million in annual employment income to the community and generates \$41.2 million in annual sales. Businesses inside the Target include a Lifetouch Portrait Studio, a Luxottica Eyeglass store and an optometrist's office. Together, these firms employ 14 people,

Property Values and Property Tax Revenues

Properties cleaned up under the Superfund program and returned to use may increase in value. This increased value can boost property tax revenues, which help pay for local government operations, public schools, transit systems and other public services. The 2013 assessed value of properties at the Industri-Plex site exceeds \$148 million, resulting in nearly \$3.8 million in local property taxes annually.



Figure 11. Marriott Residence Inn



Figure 12. Boston Sports Clubs



Figure 13. Target store

¹² MySportsClubs. All Facilities. Available at <http://www.mysportsclubs.com/clubsched/allclubs.htm>.

¹³ 2012 figure. Corporate Overview. Target. Available at <http://investors.target.com/phoenix.zhtml?c=65828&p=irol-homeprofile>.

contributing an estimated \$460,460 in annual employment income to the community. Assessed at \$14 million, the property contributes nearly \$380,000 in local property taxes annually.

99 and 103 Commerce Way

Worth \$836,000 per developable acre in 1997, these two properties sold for \$1.5 million per developed acre in 2007. Today, they contribute \$136,000 in property taxes to the local economy each year. The shopping center at 99 Commerce Way hosts six businesses: Starbucks, Gardner Mattress Corp., Residential Mortgage Service, Inc., Hair Cuttery, Pro Nails & Spa and Sylvan Learning Systems. Together, these firms employ 33 people, generate at least \$1.8 million in annual sales and contribute an estimated \$728,000 in annual employment income to the community. The shopping center at 103 Commerce Way hosts five businesses: Vitamin Shoppe, Gamestop, Inc., Firehouse Subs, PetCo and Verizon Wireless. Together, these businesses employ 46 people, generate \$3.6 million in annual sales and contribute an estimated \$943,000 in annual employment income to the community. A sixth space is currently available for lease.

Commerce Way Development

This property is home to a PetSmart, Bob's Discount Furniture, Chipotle Mexican Grill, Inc. and Banfield Pet Hospital, which is located inside the PetSmart. Together, the businesses employ 85 people, generate \$7 million in annual sales and contribute an estimated \$2.5 million in annual employment income to the community. Sold to the developer in 2007 for \$7.1 million, the property is assessed at nearly \$9 million. The property contributes \$243,000 in local property taxes annually.

Anderson Regional Transportation Center

This \$10 million transportation center provides access to passenger rail, commuter train and bus services. Facilities include bike racks and over 2,500 parking spots, allowing riders to leave their vehicles in Woburn and use public transit to commute into Boston, reducing congestion in the metropolitan area.¹⁴ Amtrak's Downeaster line, which runs from Maine to Boston, serves almost 20,000 riders and generates over \$300,000 in revenue at the transportation center annually.¹⁵ On



Figure 14. Businesses at 99 Commerce Way



Figure 15. PetCo located at 103 Commerce Way



Figure 16. Businesses located at 103 Commerce Way



Figure 17. Chipotle restaurant on Commerce Way



Figure 18. Anderson Regional Transportation Center

¹⁴ Great American Stations. Amtrak. Available at <http://www.greatamericanstations.com/Stations/WOB>.

¹⁵ Amtrak Fact Sheet, Fiscal Year 2013. Commonwealth of Massachusetts. Available at <http://www.amtrak.com/pdf/factsheets/MASSACHUSETTS13.pdf>.

an average weekday, 1,239 Boston-bound commuters board MBTA trains at the station.¹⁶ Logan Express, a non-stop bus service to Boston Logan Airport, also serves the center. A Dunkin' Donuts inside the transportation center employs four people, generates annual sales of \$120,000 and contributes an estimated \$135,616 in annual employment income to the community.

Atlantic Avenue and New Boston Street

Two areas developed prior to EPA's involvement, the Atlantic Avenue and New Boston Street corridors, have continued to support commercial and light industrial businesses throughout the cleanup and redevelopment of the rest of the site.

Along Atlantic Avenue west of the Target development, seven commercial and light industrial businesses offer a range of residential services, providing furniture, tile, awnings and recycling services. Together, these businesses employ 117 people, generate \$28.3 in annual sales and contribute an estimated \$6.9 million in annual employment income to the community. The seven parcels are assessed at over \$11 million.

West of the Anderson Regional Transportation Center, New Boston and Merrimac Streets are home to 15 light industrial and commercial businesses. Construction and home improvement-related businesses are clustered here, including landscaping, stone, granite, asphalt and piping suppliers. Together, these businesses employ nearly 300 people, generate \$33.5 million in annual sales and contribute an estimated \$20 million in annual employment income to the community. The assessed value of the 17 parcels in this area is \$13.8 million.

Room for Growth

The story of the Industri-Plex site's redevelopment is not over. A 10-acre parcel of undeveloped land remains ready to support new businesses, services and jobs (Figure 22).¹⁷ In addition, as development trends change over time, the institutional controls designed for the site allow for existing developed and cleaned up properties to continue to be redeveloped in a safe and protective manner while preserving the remedy.



Figure 19. Interior of Anderson Regional Transportation Center



Figure 20. Businesses located on Atlantic Avenue



Figure 21. Businesses located on Merrimac Street



Figure 22. Rendering of proposed development on 10-acre Presidential Way property

¹⁶ Massachusetts Bay Transportation Authority. Ridership and Service Statistics. 2010. Available at <http://www.mbta.com/uploadedfiles/documents/bluebook%202010.pdf>.

¹⁷ This parcel is owned by 300 MetroNorth Corporate Center LLC, an affiliate of National Development, 2310 Washington Street, Newton Lower Falls, MA 02462.

Conclusion

In Woburn, Massachusetts, parties came together to create an innovative, groundbreaking approach to cleanup and reuse that relied on outreach, collaboration and effective long-term planning. Integrating the site's remedy with redevelopment plans allowed the Site Remedial and Custodial Trusts to protect human health and the environment, ensure existing businesses on site remained open during cleanup, and restore the site to productive use. The Industri-Plex Superfund Site OU1 is now home to Raytheon, Woburn's largest employer, as well as 46 other thriving commercial and light industrial businesses. The Anderson Regional Transportation Center serves as a regional transit gateway, providing long-distance and local transportation services, as well as relieving congestion and connecting the local community to other parts of the Northeast. Looking to the future, the cleanup has also set the stage for additional redevelopment opportunities as well as natural areas and open space.

Nationally-Recognized Redevelopment

In 2000, Resources for Responsible Site Management received the prestigious Phoenix Award. Ten Phoenix Awards are given each year to recognize the work of people and groups transforming contaminated areas into productive resources.



Figure 23. The Phoenix Award is on display at the Anderson Regional Transportation Center

*For more information about EPA's Superfund Redevelopment Initiative (SRI), visit:
<http://www.epa.gov/superfund/programs/recycle>.*

Technical Appendix

Employment Information for On-site Jobs

EPA obtained information on the number of employees and sales volume for on-site businesses from the Hoovers/Dun & Bradstreet (D&B) database. EPA also gathered information on businesses and corporations from [D&B](#). [D&B](#) maintains a database of over 179 million companies globally and over 53 million professional contact names using a variety of sources, including public records, trade references, telecommunication providers, newspapers and publications, and telephone interviews. The Data Universal Numbering System (DUNS) number is a unique nine-digit identification number assigned by D&B to each business and its location within the D&B database for identifying each business.

Wage and Income Information for On-site Jobs

EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). The BLS is a governmental statistical agency that collects, processes, analyzes and disseminates essential statistical data to the American public, the U.S. Congress, and other federal agencies in the broad field of labor economics and statistics. The data EPA obtained from has high standards of accuracy and consistently high statistical quality, and impartiality in both subject matter and presentation.

EPA used the BLS Quarterly Census of Employment and Wages database to obtain average weekly wage data for each of the businesses located at the Industri-Plex Superfund site. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes corresponding with each type of business with weekly wage data for corresponding businesses in Middlesex County. If not available at the county level, wage data were sought by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, higher level (less detailed) NAICS codes were used to obtain the wage data.

To determine the annual wages (mean annual) earned from jobs generated by each of the businesses located at the Industri-Plex Superfund site, the average weekly wage figure was multiplied by the number of weeks in a year (52) and by the number of jobs (employees) for each of the businesses.

For more information on reuse at Superfund sites, please visit: <http://www.epa.gov/superfund/programs/recycle/>.

Table 1. Industri-Plex Superfund Site Businesses: NAICS Code and Title, Average Weekly Wage, Employees, Annual Wages, Total Annual Wage per Employee and Annual Sales

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2012) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Wages ^d	Annual Sales (2012) ^b
Aero Brazing Corp.	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	14	\$1,203	\$62,556	\$875,784	\$880,000
Albert F. Fitzgerald, Inc.	423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	30	\$1,099	\$57,148	\$1,714,440	\$10,000,000
Allied Building Products Corp.	423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	12	\$1,205	\$62,660	\$751,920	\$12,757,333 ^e
Anderson Regional Transportation	813211	Grantmaking Foundations	1	\$1,350	\$70,200	\$70,200	\$66,000
Asphalt Services, Inc.	324121	Asphalt Paving Mixture and Block Manufacturing	30	\$1,449	\$75,348	\$2,260,440	\$4,400,000
Banfield The Pet Hospital	453910	Pet and Pet Supplies Stores	11 ^f	\$472	\$24,544	\$269,984	NA
Bergen-Power Pipe Supports, Inc.	332996	Fabricated Pipe and Pipe Fitting Manufacturing	30	\$1,435	\$74,620	\$2,238,600	\$16,000,000
Bob's Discount Furniture	442110	Furniture Stores	27 ^g	\$855	\$44,460	\$1,200,420	NA
Boston Sports Clubs At Woburn	713940	Fitness and Recreational Sports Centers	35 ^g	\$360	\$18,720	\$655,200	\$2,971,000 ^h
Carrier Enterprise Northeast	423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	6	\$1,613	\$83,876	\$503,256	NA
Chipotle Mexican Grill, Inc.	722513	Limited-Service Restaurants	19	\$318	\$16,536	\$314,184	\$2,169,000 ⁱ

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2012) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Wages ^d	Annual Sales (2012) ^b
Coating Application Technologies	325510	Paint and Coating Manufacturing	7	\$1,282	\$66,664	\$466,648	\$590,000
Communications Supply Corporation	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	20	\$1,528	\$79,456	\$1,589,120	NA
Custom Office Furniture of Boston, Inc.	337211	Wood Office Furniture Manufacturing	15	\$937	\$48,724	\$730,860	\$1,800,000
David Role & Co., Inc.	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	14	\$1,528	\$79,456	\$1,112,384	\$2,600,000
Direct Granite Importers	423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	1	\$1,099	\$57,148	\$57,148	\$110,000
Dunkin' Donuts	445291	Baked Goods Stores	4	\$652	\$33,904	\$135,616	\$120,000
Firehouse Subs	722513 ^j	Limited-Service Restaurants	15 ^k	\$318	\$16,536	\$248,040	\$731,006 ^l
Gamestop, Inc.	451120	Hobby, Toy, and Game Stores	7	\$307	\$15,964	\$111,748	\$1,399,322 ^m
Gardner Mattress Corp	442110	Furniture Stores	2	\$855	\$44,460	\$88,920	\$150,000
Gerritystone, Inc.	423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	45	\$1,099	\$57,148	\$2,571,660	\$6,600,000
H&R Auto Engineering	NA	NA	NA	NA	NA	NA	NA

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2012) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Wages ^d	Annual Sales (2012) ^b
Koster & Sons Construction	236115	New Single-Family Housing Construction (except Operative Builders)	7	\$1,143	\$59,436	\$416,052	\$550,000
Landscape Express, Inc.	562920	Materials Recovery Facilities	8	\$895	\$46,540	\$372,320	\$630,000
Lifetouch Portrait Studios Inc.	541921	Photography Studios, Portrait	9	\$497	\$25,844	\$232,596	\$47,000
Luxottica Retail North America Inc.	446130	Optical Goods Stores	2	\$742	\$38,584	\$77,168	NA
Marriott Residence Inn	721110	Hotels (except Casino Hotels) and Motels	40	\$603	\$31,356	\$1,254,240	\$1,500,000
Mike's Auto Body	811121	Automotive Body, Paint, and Interior Repair and Maintenance	2	\$928	\$48,256	\$96,512	\$140,000
Morgan Awning Company	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	2	\$692	\$35,984	\$71,968	\$180,000
PetCo	453910	Pet and Pet Supplies Stores	18 ^g	\$472	\$24,544	\$441,792	NA
PetSmart	453910	Pet and Pet Supplies Stores	28 ^g	\$472	\$24,544	\$687,232	\$4,840,000 ⁿ
Pinnacle Office Solutions	541611	Administrative Management and General Management Consulting Services	NA	NA	NA	NA	NA
Pro Nails & Spa	812113 ^j	Nail Salons	3	\$336	\$17,472	\$52,416	\$110,000
Ratner Companies, L.C. (Hair Cuttery)	812112	Beauty Salons	12	\$466	\$24,232	\$290,784	\$479,643 ^o
Raytheon Company	334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Systems	1,100 ^p	\$3,049	\$158,548	\$174,402,800	NA

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2012) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Wages ^d	Annual Sales (2012) ^b
Residential Mortgage Service, Inc.	NA	NA	NA	NA	NA	NA	NA
Starbucks Corporation	722513	Limited-Service Restaurants	14	\$318	\$16,536	\$231,504	\$1,078,304 ^q
Sylvan Learning Systems Inc.	611699	All Other Miscellaneous Schools and Instruction	2	\$623	\$32,396	\$64,792	\$75,000
Target Corporation	452112	Discount Department Stores	150 ^r	\$371	\$19,292	\$2,893,800	\$41,225,522 ^s
Verizon Wireless	NA	NA	NA	NA	NA	NA	NA
Vitamin Shoppe	446191 ^j	Food (Health) Supplement Stores	6 ^g	\$454	\$23,608	\$141,648	\$1,468,000 ^t
Waste Management Of Massachusetts, Inc.	562219	Other Nonhazardous Waste Treatment and Disposal	124	\$1,254	\$65,208	\$8,085,792	NA
Weston & Sampson, Inc.	541330	Engineering Services	6	\$2,064	\$107,328	\$643,968	NA
Woburn Recycling & Converting	562920	Materials Recovery Facilities	32	\$895	\$46,540	\$1,489,280	\$3,600,000
Woburn Steel Drum Inc.	423840	Industrial Supplies Merchant Wholesalers	9	\$1,646	\$85,592	\$770,328	\$1,000,000
Yan LI Od	621320	Offices of Optometrists	3	\$966	\$50,232	\$150,696	\$180,000
Total			1,922			\$210,834,260	\$120,447,131

^a NAICS code provided in D&B unless otherwise noted.

^b Data are from D&B. For employee data, if D&B indicated a range, the lowest number is used.

^c Average weekly wage per employee is based on BLS 2012 Average Weekly Wage data.

^d Total annual wage figures were derived by multiplying “Number of Employees” by “Annual Wage (Mean Annual) per Employee.”

^e Annual sales is an average value per location in 2013, calculated from data provided by the corporate parent’s full year results announcement, available at <http://www.crh.com/docs/press-releases-2014/2013-full-year-results-announcement-25th-feb.pdf?sfvrsn=2,%20page%2010>.

^f Employee data are from Manta. If Manta indicated a range, the lowest number is used.

^g Employee number is an estimate calculated based on the median of data available in D&B for other branches of this business.

^h Annual sales is the revenue per weighted average club in 2013, provided in the corporate parent's annual report, available at <http://files.shareholder.com/downloads/ABEA-2LNT17/3049032446x0x735039/005B74FA-F8AD-498F-AE0A-B291F4038424/10ktown.pdf>.

ⁱ Annual sales is the 2013 average restaurant sales, provided in Chipotle's 2013 annual report, available at <http://ir.chipotle.com/phoenix.zhtml?c=194775&p=irol-reportsAnnual>.

^j NAICS code was not provided in D&B or was determined to be inappropriate for estimating wages. Therefore, the NAICS code was selected by matching the general operations of the business with a related NAICS code.

^k Number of employees is the low range of a figure provided on the corporate Frequently Asked Questions page, available at <http://www.firehousesubs.com/FAQs.aspx>.

^l Annual sales is the 2013 average unit volume reported at http://www.firehousesubs.com/Press-Room/PressRoom_19.aspx.

^m Annual sales is the 2012 average sales per store in the United States, calculated from figures provided in the 2012 annual report available at <http://phx.corporate-ir.net/phoenix.zhtml?c=130125&p=irol-reportsannual>.

ⁿ Annual sales calculated from the 2012 average square feet per store and 2013 net sales per square foot from PetSmart's 2012 Annual Report, available at <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MTgzOTYyfENoaWxkSUQ9LTF8VHlwZT0z&t=1>, and PetSmart Fact Sheet, available at <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MTI1NjQwfENoaWxkSUQ9LTF8VHlwZT0z&t=1>, respectively.

^o Annual sales data is the 2005 average revenue per year reported at <http://www.washingtonpost.com/wp-dyn/content/article/2005/10/17/AR2005101701559.html>, adjusted to 2012 dollars.

^p Employee data collected from 2004 press release, *Raytheon to Establish Missile Defense Center in Woburn, Mass*, available at <http://www.prnewswire.com/news-releases/raytheon-to-establish-missile-defense-center-in-woburn-mass-73374812.html>.

^q Annual sales is the average per company-operated store in the Americas, calculated from 2013 annual report available at <http://investor.starbucks.com/phoenix.zhtml?c=99518&p=irol-reportsannual>.

^r Employee data, low end of the average employees per store, collected from *Conditions for Workers at Target: Estimates for a Proposed California Supercenter*, April 2011 Political Economy Research Institute Research Brief by Dr. Jeannette Wicks-Lim, available at http://www.peri.umass.edu/fileadmin/pdf/research_brief/PERI_Target_Research_Brief.pdf.

^s Annual sales calculated by square feet reported in the City of Woburn Assessor's Database (<http://gis.vgsi.com/woburnma/Search.aspx>), multiplied by the 2012 average sales per square foot reported in Target's 2012 annual report, available at https://corporate.target.com/_media/TargetCorp/annualreports/content/download/pdf/Annual-Report.pdf?ext=.pdf.

^t Annual sales is the net sales per store reported in the 2012 annual report, available at <http://vitaminshoppe.investorroom.com/index.php?s=120&item=147>.

NA: Not Available

Property Values and Local Tax Revenue Generated from Property Taxes

Property records are made available by the City of Woburn at <http://gis.vgsi.com/woburnma/Search.aspx>. Property tax values are estimated based on property type information found in the property record, and the 2012 tax rates published at <http://cityofwoburn.com/index.aspx?NID=785>.

Table 2. 2013 Property Values for the Industri-Plex Superfund site¹

Parcel	Current Parcel Owner (2014)	Land Value (\$)	Build Value (\$)	Total Value (\$)	Estimated Property Tax	Development Area
5-1-3	RESOURCES FOR RESP SITE MGMT	\$1,000	\$0	\$1,000	\$0.00	Anderson Regional Transportation Center
10-1-7	RTC REALTY TRUST	\$7,533,000	\$1,304,900	\$8,837,900	\$0.00	Anderson Regional Transportation Center
10-1-3	FITZGERALD MARY E. TRUSTEE	\$1,056,800	\$1,617,800	\$2,674,600	\$72,240.95	Atlantic Ave.
10-1-4	NEW MID A TERRACE TENJ LLC	\$854,200	\$2,190,100	\$3,044,300	\$82,226.54	Atlantic Ave.
10-1-5	VINING DAVID T. TRUSTEE	\$605,000	\$1,383,800	\$1,988,800	\$53,717.49	Atlantic Ave.
10-1-8	ATLANTIC AVE ASSOCIATES INC	\$602,900	\$1,177,100	\$1,780,000	\$48,077.80	Atlantic Ave.
10-1-9	FEMMINO ANTHONY S	\$2,300	\$0	\$2,300	\$62.12	Atlantic Ave.
10-1-10	GANGLANI PROPERTIES, LLC	\$398,800	\$1,380,800	\$1,779,600	\$48,067.00	Atlantic Ave.
10-1-11	FEMMINO ANTHONY STR	\$6,700	\$0	\$6,700	\$180.97	Atlantic Ave.
10-1-2	112 COMMERCE WAY LLC	\$4,969,100	\$4,026,600	\$8,995,700	\$242,973.86	Commerce Way
9-2-1	225-231 NEW BOSTON ST, LLC	\$0	\$806,700	\$806,700	\$21,788.97	New Boston St.
9-2-3	ZAYKA NICHOLAS TR.	\$50,600	\$0	\$50,600	\$1,366.71	New Boston St.
9-7-3	BOSTON EDISON CO	\$171,100	\$0	\$171,100	\$4,621.41	New Boston St.
9-2-4	ZAYKA NICHOLAS TR.	\$221,400	\$459,600	\$681,000	\$18,393.81	New Boston St.
9-7-4	COVALUCCI WILLIAM TR.	\$506,300	\$779,100	\$1,285,400	\$34,718.65	New Boston St.
9-1-6	POSITIVE START REALTY INC	\$529,600	\$847,000	\$1,376,600	\$37,181.97	New Boston St.
9-2-6	RGK REALTY LLC	\$424,900	\$0	\$424,900	\$11,476.55	New Boston St.
9-1-7	P X REALTY TRUST	\$537,100	\$938,600	\$1,475,700	\$39,858.66	New Boston St.

¹ Property values presented are estimates obtained from the City of Woburn Tax Assessor. The County Assessor separates the land value from the build value, which includes buildings and other structures built on a property. The sum of the land value and the build value equals the total estimated property value. The date of the data was not specified, but assumed to be 2013 as the data were collected in summer 2013.

Parcel	Current Parcel Owner (2014)	Land Value (\$)	Build Value (\$)	Total Value (\$)	Estimated Property Tax	Development Area
9-2-7	DAGATA STEPHEN R	\$508,700	\$728,800	\$1,237,500	\$33,424.88	New Boston St.
9-1-8	P X REALTY TRUST	\$1,273,700	\$1,244,900	\$2,518,600	\$68,027.39	New Boston St.
9-2-8	BOSTON EDISON CO	\$210,100	\$0	\$210,100	\$5,674.80	New Boston St.
9-2-1-2	225-231 NEW BOSTON ST, LLC	\$668,500	\$0	\$668,500	\$18,056.19	New Boston St.
9-2-1-3	225-231 NEW BOSTON ST, LLC	\$806,700	\$0	\$806,700	\$21,788.97	New Boston St.
9-2-1-4	MOORE ERNEST G. TR.	\$709,200	\$0	\$709,200	\$19,155.49	New Boston St.
9-2-6-2	217-219 NEW BOSTON STREET LLC	\$284,300	\$0	\$284,300	\$7,619.24	New Boston St.
9-2-6-3	217-219 NEW BOSTON STREET LLC	\$502,200	\$0	\$502,200	\$13,458.96	New Boston St.
9-2-6-4	217-219 NEW BOSTON STREET LLC	\$584,300	\$0	\$584,300	\$15,659.24	New Boston St.
5-4-3	150 PRESIDENTIAL WAY LLC	\$2,920,500	\$12,345,900	\$15,266,400	\$412,345.46	Parking Lot
5-4-4	METRONORTH HOTEL, LLC	\$2,036,600	\$5,038,400	\$7,075,000	\$191,095.75	Presidential Way
5-4-5	400 METRONORTH CORPORATE CENTER LLC	\$1,764,400	\$3,033,600	\$4,798,000	\$129,593.98	Presidential Way
5-4-6	METRONORTH CORP CTR LLC	\$46,900	\$0	\$46,900	\$1,266.77	Presidential Way
5-4-2	300 METRONORTH CORP CTR LLC	\$2,102,400	\$0	\$2,102,400	\$56,785.82	Presidential Way
5-1-8	PRESIDENTIAL WAY WOBURN LLC	\$2,658,100	\$23,338,900	\$25,997,000	\$702,178.97	Presidential Way
5-1-9	PRESIDENTIAL WAY WOBURN LLC	\$3,047,800	\$27,677,900	\$30,725,700	\$829,901.16	Presidential Way
10-1-16	DAYTON HUDSON CORPORATION	\$7,939,300	\$6,091,000	\$14,030,300	\$378,958.40	Target Development
10-1-18	WOBURN CITY OF	\$187,300	\$0	\$187,300	\$0.00	Target Development
10-1-19	SUN METRONORTH, LLC	\$1,175,000	\$1,883,400	\$3,058,400	\$82,607.38	Target Development
10-1-20	SUN METRONORTH, LLC	\$867,200	\$1,099,400	\$1,966,600	\$53,117.87	Target Development
5-1-1	RESOURCES FOR RESP SITE MGMT	\$1,000	\$0	\$1,000	\$0.00	Vacant
5-1-2	WOBURN CITY OF	\$38,000	\$0	\$38,000	\$0.00	Vacant
10-1-6	RESOURCES FOR RESPONSIBLE SITE MGT	\$1,000	\$0	\$1,000	\$0.00	Vacant
10-1-12	FEMMINO ANTHONY STR	\$12,000	\$0	\$12,000	\$324.12	Vacant
10-1-17	WOBURN CITY OF	\$64,600	\$0	\$64,600	\$0.00	Vacant
15-1-11	BOSTON EDISON CO	\$336,300	\$0	\$336,300	\$9,083.46	Vacant
Total		\$49,216,900	\$99,394,300	\$148,611,200	\$3,767,078	

Table 3. Property Value History – Original Sales Data for Select Industri-Plex Superfund Site Parcels²

Development	Parcel ID	Unit	Date	Assessment or Sale	Value	Consumer Price Index (CPI) Adjusted	Total Acres	Dollars/ All Acres	Dollars/ Developable Acres
Target	10-1-19, 10-1-20	99 and 103 Commerce Way	1997	Sale	\$11,500,000	\$16,691,623	29.63	\$563,264	\$835,667
	10-1-16	Target Property							
	10-1-18	Vacant Wetland							
Presidential Way	5-4-4	Marriott Residence Inn	1999	Sale	\$2,158,484	\$3,018,211	25.48	\$118,434	\$118,434
	5-4-5	Boston Sports Clubs							
	5-4-6	Vacant							
	5-4-2	Vacant							
	5-1-8, 5-1-9	Raytheon	1999 & 2004	Sale	\$2,436,616	\$3,407,123	12.68	\$268,687	\$268,687
Commerce Way	10-1-2	Commerce Way	2007	Sale	\$6,300,000	\$7,078,301	5.26	\$1,346,035	\$1,346,035

² Southern Middlesex Recorded/Registered Land Records obtained from <http://www.masslandrecords.com/MiddlesexSouth/Default.aspx> on April 18, 2014.

Table 4. Property Value History – Recent Sales and Assessment Data for Select Industri-Plex Superfund Site Parcels³

Development	Parcel ID	Unit	Date	Assessment or Sale	Value	CPI Adjusted	Total Acres	Dollars/ All Acres	Dollars/ Developed Acres
Target	10-1-19, 10-1-20	99 and 103 Commerce Way	2007	Sale	\$5,980,000	\$6,718,768	4.34	\$1,547,313	\$1,547,313
	10-1-16	Target Property	2013	Assessment	\$14,030,300	\$14,030,300	15.63	\$897,549	\$897,549
	10-1-18	Vacant Wetland	2013	Assessment	\$187,300	\$187,300	9.66	\$19,390	NA
Presidential Way	5-4-4	Marriott	2013	Assessment	\$7,075,000	\$7,075,000	4.53	\$1,563,179	\$1,563,179
	5-4-5	Boston Sports Clubs	2013	Sale	\$12,100,000	\$12,100,000	9.76	\$1,239,150	\$1,239,150
	5-4-6	Vacant	2013	Assessment	\$2,102,400	\$2,102,400	10.73	\$195,937	\$195,937
	5-4-2	Vacant	2013	Assessment	\$46,900	\$46,900	0.47	\$99,787	NA
	5-1-8, 5-1-9	Raytheon	2011	Sale	\$85,300,000	\$88,340,537	12.68	\$6,966,919	\$6,966,919
Commerce Way	10-1-2	Commerce Way	2013	Sale	\$17,600,000	\$17,600,000	5.26	\$3,346,878	\$3,346,878

NA: Not Available

³ Ibid.