

NORWICH AREA-WIDE  
**BROWNFIELD**  
STUDY

prepared for  
The City of Norwich

prepared by  
The Cecil Group, Inc.  
Tighe & Bond, Inc.

September 2012

## Acknowledgements

The Norwich Redevelopment Agency (RDA) managed this Brownfields Area-Wide Plan with assistance from the City's Department of Planning and Neighborhood Services. The RDA served as the steering committee for this plan, providing feedback and guidance throughout the planning process. Funding for this study was provided by the City of Norwich.

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# Introduction

## Study Overview

This Norwich Area-Wide Brownfields Plan provides a comprehensive strategy and action plan to support and encourage the redevelopment of key brownfield sites in the city, leveraging state and federal programs applied through local action. The proliferation of brownfields or potentially-contaminated and underutilized sites in Norwich largely stems from the city's industrial past. Located at the convergence of the Yantic, Shetucket and Thames rivers, the city became a manufacturing center in the mid to late 1700s with thriving mills and industries. With those industries now gone, many of the properties today are neglected or abandoned due in part to their potential contamination, which makes redevelopment more challenging. Despite their desirable locations – on waterfronts or near major transportation routes or commercial centers – many of the brownfields remain underutilized. They continue to detract from the overall quality of life in neighborhoods, stunt adjacent development, restrict growth of the City's potential tax base, and harm the environment.

This plan proposes ways to return key brownfield sites to productive use – and to spur the revitalization of underutilized areas – through reuse scenarios and funding strategies. Specifically, it evaluates brownfield sites throughout the city to determine their reuse potential, identifies three strategic brownfield sites that should be targeted for redevelopment, and develops reuse scenarios for each. The strategic brownfield sites, which will be described later, are as follows:

- > Chestnut Street Mills - 77 Chestnut Street and 132-176 Franklin Street
- > Shipping Street Area - West Thames Street and Terminal Way
- > South Mill of Ponemah Mills - 555 Norwich Avenue

All of the strategic brownfield sites are remnants of the city's industrial past. A summary of their reuse scenarios – specifically their program of development, consequent tax value and potential job creation – is shown in Table 1. This brownfields plan also identifies state and federal brownfields programs that can be used to help fund the assessment, cleanup and redevelopment of the three strategic brownfield sites as well as several others in Norwich.

The three strategic brownfield site scenarios include a range of redevelopment options: reuse of an existing building (South Mill of Ponemah Mills), demolition of a building to support the reuse of an adjacent, existing building (Chestnut Street Mills), and reuse of existing mills in combination with land clearance and new construction (Shipping Street Area). The latter example, the Shipping Street Area, also shows how a larger site can be broken into smaller sections or phases that have different but complementary uses. Each reuse scenario highlights ways in which the City of Norwich could potentially advance the redevelopment of other brownfields in the area.

With the different brownfields in mind, an action plan has also been developed to help the City proactively take steps to aid in the redevelopment of the many brownfields in Norwich. The action plan outlines potential paths – with specific steps – to redevelopment for two types of brownfields, City-owned and privately-owned sites.

Table 1

Strategic Brownfield Site	Use	Est. Gross SF	Est. Net SF	Est. Tax Increase	Est. Job Creation
Chestnut Street Mills					
	Commercial	81,020	56,714		
	Commercial/storage	39,905	27,934		
	Residential	80,158	56,111		
	Subtotal	201,083	140,759	\$165,779	197
Shipping Street Area					
	Commercial	182,033	127,243		
	Commercial/storage	17,468	12,228		
	Residential	108,208	75,746		
	Industrial	174,000	139,200		
	Subtotal	481,709	354,417	\$356,233	789
Ponemah Mills (South Mill)					
	Residential	137,850	96,495		
	Commercial	145,042	101,529		
	Subtotal	282,892	198,024	\$206,263	305
<b>TOTAL</b>		<b>965,684</b>	<b>693,200</b>	<b>\$728,275</b>	<b>1,291</b>

This action plan can be used to not only move forward the assessment, remediation and reuse of the strategic brownfield sites but also other underutilized, derelict properties throughout the city. It also includes steps that can be taken to address specific sites as well as broader areas, as it is important to understand and leverage the greater positive change that can result from cleaning up and reusing brownfields.

The City is already familiar with the process of leveraging brownfield remediation program funds to obtain public benefits. For example, the City used U.S. Environmental Protection Agency (EPA) Targeted Brownfields Assessment funding, Connecticut Department of Economic and Community Development (DECD) funds and other programs to clean up a five-acre property formerly used by a textile finishing business and create a new public park for active and passive recreation. That project has sparked other redevelopment activities in the area. The goal for this plan is to determine alternative scenarios that will directly increase the number of jobs in Norwich and expand the City’s tax base.

## Brownfields Overview

The project team examined brownfields throughout Norwich, a city of roughly 40,500 people in Eastern Connecticut on Interstate 395, with major coastal waterways and multiple rail lines. As shown in Figure 1, the team identified 133 brownfields in the city. According to Connecticut General Statutes, a brownfield is “any abandoned or underutilized site where redevelopment, reuse or expansion has not occurred due to the presence or potential presence of pollution in the buildings, soil or groundwater that requires investigation or remediation before or in conjunction with the restoration, redevelopment, reuse and expansion of the property.”<sup>1</sup>

<sup>1</sup>Connecticut Department of Energy and Environmental Protection, “Brownfields Sites in Connecticut,” <http://www.ct.gov/dep/cwp/>

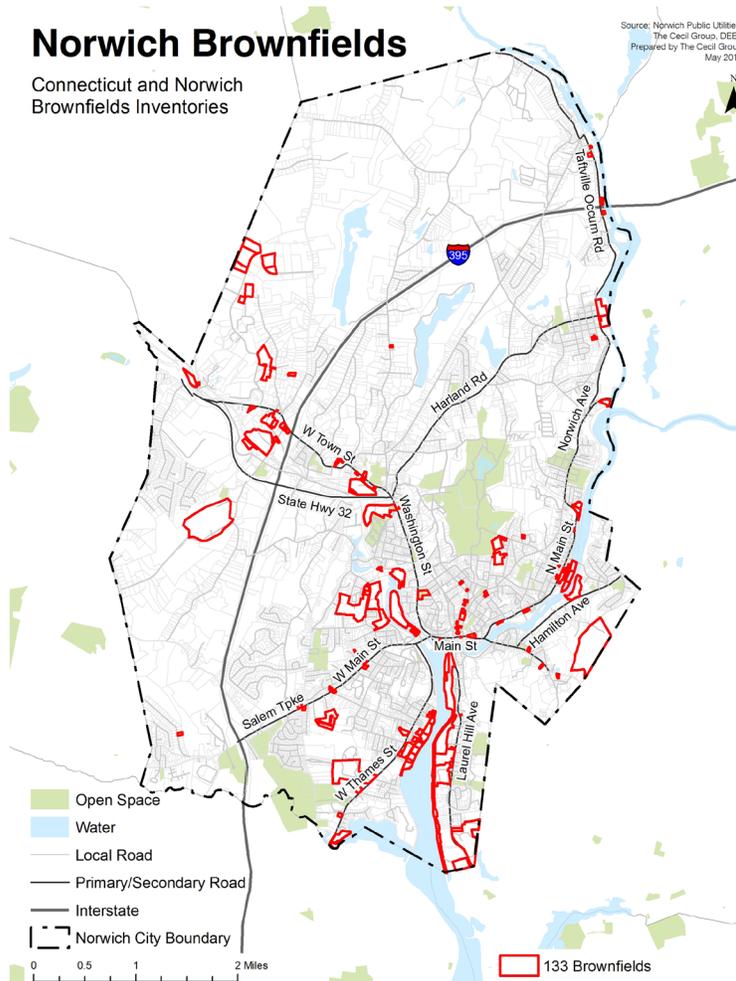


Figure 1

sites were identified, and reuse scenarios were developed for each. This plan aims to advance the redevelopment of those three sites –listed earlier – and through those sites, to highlight how other brownfields in Norwich could be remediated and redeveloped.

## Process

The project team, led by The Cecil Group, conducted a comprehensive planning process as part of this Area-Wide Brownfields Study. The process included regular meetings with the RDA, which is chaired by Marjorie Blizard. RDA members include Carol Maranda, Sofee Noblick, James Quarto, Timothy Smith, Leland Loose and Anthony Jacobs. The presentation from the August 27 RDA meeting – where the reuse scenarios and action plan were discussed – has been included in Appendix A.

Early in the process, the project team reviewed existing studies, plans and files. These included the city and state brownfield inventories mentioned earlier, the 2011 “A Waterfront Vision” and the 2002 Norwich Plan

[view.asp?a=2715&q=324930&depNav\\_GID=1626](http://www.norwichct.gov/dep/cwp/view.asp?a=2715&q=324930&depNav_GID=1626)

2 DEEP, “Connecticut Brownfields Inventory,” [http://www.ct.gov/dep/cwp/view.asp?a=2715&q=488996&depNav\\_GID=1626](http://www.ct.gov/dep/cwp/view.asp?a=2715&q=488996&depNav_GID=1626)

In Norwich, brownfields include historic mills in the downtown area and on the three riverfronts, auto sales and service properties, the City’s former landfill, and many other urban sites. The list of brownfields was derived by examining the Connecticut Department of Energy and Environmental Protection (DEEP) Brownfields Inventory, the state’s List of Contaminated or Potentially Contaminated Sites in Connecticut, and a brownfields inventory (map) prepared by Norwich Public Utilities.<sup>2</sup> Several of the properties on the lists have been remediated – with some even being redeveloped – so they were removed from consideration. The remaining brownfields were included in this study’s updated brownfields inventory.

The project team analyzed the 133 brownfields, using a three-step prioritization process that will be described in the following chapter. Ultimately, three strategic brownfield

of Conservation and Development, which is in the process of being updated. Tighe & Bond also reviewed environmental data and city and state files related to brownfields in Norwich. This information was used to create an updated brownfields inventory and to understand previous visions for specific sites, the environmental condition of brownfields, and the City's overall goals.

The project team also engaged the public early in the planning process. Specifically, the team interviewed real estate professionals and City officials about brownfields, market conditions and redevelopment issues, and it held two public workshops to solicit broader input from the community. A tour of more than a dozen brownfields was also conducted with RDA members.

Working with the RDA, the project team conducted an in-depth process to evaluate and prioritize the brownfield sites and identify three as key sites for redevelopment. This process will be described in detail in the following section. Reuse scenarios and concept plans were created for the three key sites, and implementation plans were developed. The team also determined how to best use brownfields funding to support the redevelopment of the three sites. All of the key information, findings and observations made throughout this planning process have been incorporated into this report.

# Brownfields Analysis

A major component of this study was a brownfields analysis and prioritization. Because there are so many brownfield properties in Norwich, this process was necessary to narrow down and target the specific sites that would likely create jobs, increase tax revenue and serve as catalysts for neighborhood revitalization once cleaned up and redeveloped.

Part of this process included better understanding the existing conditions of the brownfields and their neighborhoods. To do this, the project team used GIS and assessors data to examine the environmental status of the brownfields (see Figure 2), the location of historic districts, the assessed value of properties citywide, and the condition of buildings citywide.

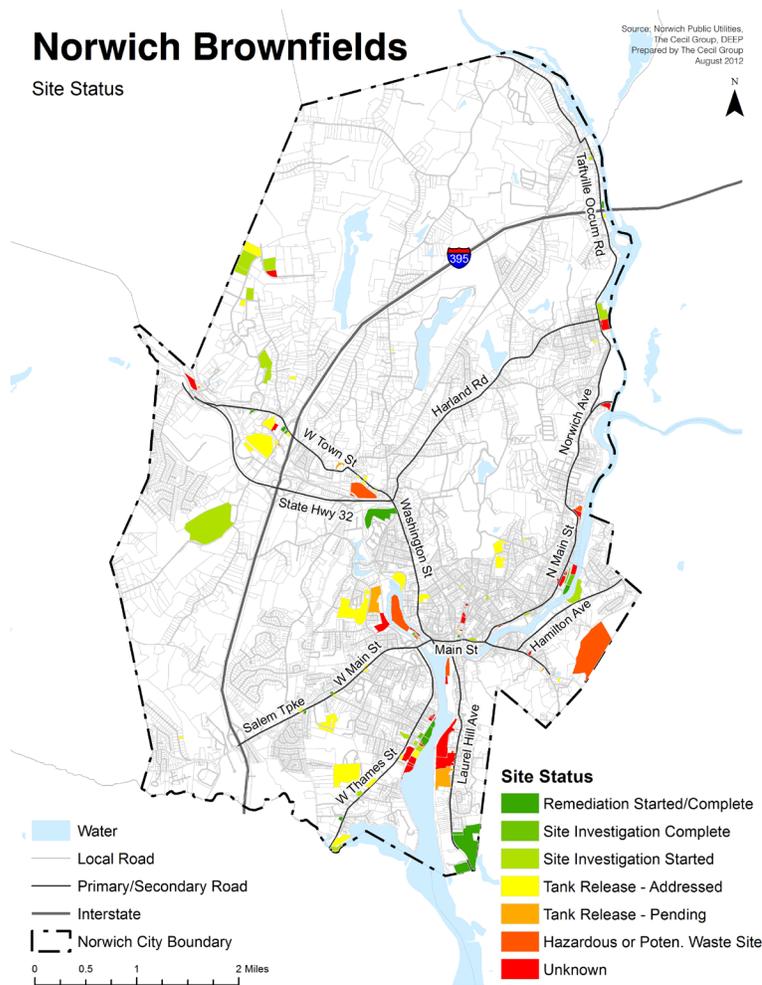


Figure 2

## First Level of Prioritization

As mentioned earlier, the project team created an updated brownfields inventory as part of this study. That inventory, which includes 133 properties, was the starting point for the brownfields analysis in Norwich. The project team developed a set of criteria to analyze and screen the properties using GIS, assessors and other data; the criteria are listed and described in Table 2.

Table 2

Criteria	Description	Explanation
1. Size	At least one acre in size	Larger sites can support bigger projects and spur revitalization in neighborhoods.
2. Owner	Not owned by the state or federal government	City- and privately-owned land falls under the jurisdiction of the City of Norwich.
3. Zoning	Zoned commercial, industrial or multifamily	Commercial or industrial projects are more likely to create jobs, which is a priority of the City. Minimizing negative impacts on residential neighborhoods was also a consideration.
4. Access	Located on a primary or secondary road	Commercial and industrial projects typically need access on major roads to succeed.
5. Status	Not remediated	Remediated sites are not the focus of this study, and their redevelopment cannot be supported by brownfields funding.

## Second Level of Prioritization

Applying the criteria to the brownfield sites resulted in roughly 18 remaining properties. The project team toured these sites with members of the RDA to better understand their current use, neighborhood context and history. After the tour, two additional criteria were applied to the remaining brownfields; the criteria are listed and described in Table 3.

Table 3

Criteria	Description	Explanation
1. Use	Vacant or underutilized	This study aims to redevelop vacant or underutilized brownfields, not displace active businesses.
2. Sites of Interest	Sites of interest or those requested by the RDA	Brownfields that may have been screened out but that present unique redevelopment opportunities should be further evaluated.

This screening resulted in 15 properties, which were grouped into nine sites based on their location. Specifically, brownfields adjacent to each other were grouped together. The final nine sites are listed below and shown in Figure 3. These sites were brought to the community in public workshops for review and comment.

- > American Legion
- > Capehart Mill
- > Chestnut Street Mills
- > Former Buckingham School
- > Hollyhock Island
- > North Main Street (Hidden Valley Club and adjacent property)
- > Ponemah Mills
- > Shipping Street Area (WISP-owned sites)
- > Trinacria Mill

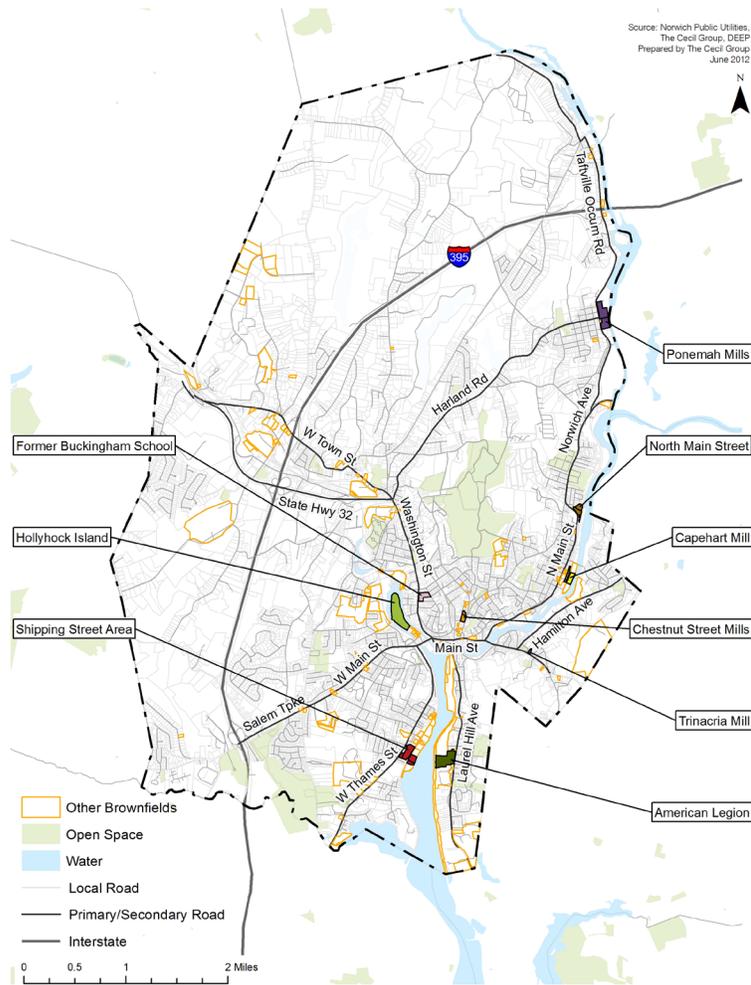


Figure 3

for redevelopment. The sites include the Chestnut Street Mills, Shipping Street Area and Ponemah Mills. All three sites have long been discussed in the community as properties that should be redeveloped. Ideas or proposals have previously been prepared for the Shipping Street Area and Ponemah Mills. (These will be described later.)

The project team conducted its own evaluation of the nine brownfields, taking into consideration the following seven criteria. The criteria were weighted according to their relative importance, with “Redevelopment Value” and “Likelihood to Create Jobs” having the most weight. This weighting reflects the City’s desire for economic development that creates jobs.

- > Site Potential (access, size, environmental status, zoning, etc)
- > Readiness to Proceed based on Ownership
- > Redevelopment Value (building assessed value and taxes)
- > Likelihood to Create Jobs
- > Public Preference

The project team created property information sheets for the nine brownfield sites. These sheets, which are in Appendix B, provide a description of each site – owner, land area, assessed and appraised value, zoning, access and public transit – as well as building data, environmental conditions, issues and opportunities, community context, and site and zoning maps. Photos of the sites as well as potential brownfield funding programs that could be used to assess, clean up and redevelop the sites are included. Preliminary environmental data related to the sites were also compiled.

### Third Level of Prioritization

The nine brownfield sites were presented to the community at two public workshops in June. Meeting participants, which included City officials and residents, largely agreed that three sites should be the priority

- > Match with Brownfields Programs
- > Remaining Assessment/Remediation Required

The criteria “Match with Brownfields Programs” considers whether the specific sites could potentially qualify for state and federal brownfields funding. Appendix C shows which sites are potentially eligible for different state and federal brownfield funding programs. The appendix also describes the assessment or remediation work that needs to be completed next for each site to advance toward redevelopment. This information was considered in the criteria “Remaining Assessment/Remediation Required.”

Based on the criteria listed above, the three top-ranking sites are the Shipping Street Area, Chestnut Street Mills and Ponemah Mills. This aligns with the input gathered from the community.

# Strategic Brownfield Sites

Based on input from the RDA and City's Director of Planning and Neighborhood Services, the project team revised the specific properties that were included in the three strategic brownfield sites. Specifically, the north mill at Ponemah Mills was removed from further consideration because there are already approved plans to redevelop the building into residential units. Remediation has also started on the property. Additional properties were added to the Shipping Street Area to best capture the redevelopment potential of the waterfront properties.



Figure 4

## Description of Each Site

### Chestnut Street Mills

The Chestnut Street Mills, shown in Figure 4, includes two properties with a total of 2.5 acres on the edge of the downtown. The northern property, 77 Chestnut Street, is owned by the City of Norwich. The buildings are vacant and in poor condition; the roof of one building is caving in. The City is expected to demolish the buildings. The southern property, 132-176 Franklin Street, is owned by Franklin St LLC. The 5-story building is vacant and is roughly 216,000 gross square feet in size. It was built in 1905 and fronts on three streets, Chestnut, Willow and Franklin streets. Access is limited to local roads, and the western edge of the site is located in the 100-year flood plain.

The entire site, formerly occupied by Hopkins & Allen Firearms and later J.B. Marin Velvet Company, is in walking distance to City Hall and Main Street. Across the street is the redeveloped ArtSpace Norwich, a residential rental development with community/gallery space. The surrounding neighborhood also includes residences, particularly to the north and northeast.

The two former mill properties are zoned Chelsea Central, which allows a wide range of uses by right. These permitted uses include retail, office, restaurant, museum, theater, schools, bars, parks, libraries and clubs. Multifamily residential uses, hotels and transportation centers are allowed by special permit.

Mixed-use buildings are also allowed by special permit in all commercial districts, including the Chelsea Central District. Residential uses are not allowed on or below the first floor, and the square footage in residential use must not exceed the square footage in commercial use.<sup>3</sup>



Figure 5

### Shipping Street Area

The Shipping Street Area, shown in Figure 5, is located between West Thames Street and the Thames River in the West Side neighborhood. It consists of 15 properties – including the City-owned 26 Shipping Street – that together include roughly 33 acres of land. Much of the area is in the 100-year flood plain, excluding 340 West Thames Street and a small portion of 60 Terminal Way.

The area can be accessed via West Thames Street, Bushnell Place, South Street, Shipping Street and Terminal Way. The former industrial area is now largely vacant and abandoned, except for a storage business. There are less than 10 buildings in the area, some of which used to be occupied by Uncas Paper Company and later Dahl Oil Company. There are riverside structures that were previously used for barge transport and transfer of materials.

<sup>3</sup> Norwich Zoning Ordinance, Sec. 9.8 Mixed residential/commercial use, <http://library.municode.com/index.aspx?clientId=11363&rateId=7&stateName=Connecticut>

An active railroad owned by New England Central Railroad (NECR) bisects the Shipping Street properties.<sup>4</sup> The rail line runs from New London to the Massachusetts state line, and it carries freight service but no passenger service. Southeast Area Transit District provides bus service on West Thames Street, and I-395 can be accessed to the south via West Thames Street/Route 32.

All of the properties except one are zoned Waterfront Development, which permits yacht clubs and marinas, parks, boat docks, boat and marine engine sales, retail sale or rental of boating and fishing supplies, museums with nautical themes, restaurants, cafes and other uses. Uses allowed by special permit include offices, apartments and townhouses, transportation facilities, retail uses, and hotels and inns. Uses must be water-dependent as defined by Connecticut General Statutes.<sup>5</sup>

A proposal to develop more than 100 residential units at 27 Terminal Way and 28 South Street was never completed. The project was approved in 2006, but the permits have since expired. The properties remain vacant.



Figure 6

### South Mill of Ponemah Mills

This highly-visible property, shown in Figure 6, is the southern portion of Ponemah Mill. Located at 555 Norwich Avenue in Taftville-Occum on the Shetucket River, the south mill is a 3-story building constructed in 1877. Roughly 474,000 gross square feet in size, the building is occupied at least in part by a furniture company and motorcycle dealer. Access to the site is via Norwich Avenue/Route 97, which leads to I-395 to the north. The eastern edge of the site is in the 100-year flood plain.

The south mill is located in the Industrial zoning district. Allowed by right in the industrial district are many manufacturing, processing and storage uses as well as car dealerships, boat and marine engine sales and public utility stations. Uses allowed by special permit include woodworking and blacksmith shops, glass manufacturing,

<sup>4</sup> New England Central Railroad, <http://www.railamerica.com/railservices/necr.aspx#map>

<sup>5</sup> Connecticut General Statutes, Chapter 44 Coastal Management, [http://search.cga.state.ct.us/dtsearch\\_pub\\_statutes.html](http://search.cga.state.ct.us/dtsearch_pub_statutes.html)

bag cleaning establishments, stone works, adult bookstores and additional manufacturing and storage uses.

The site is in the Taftville National Register Historic District and therefore is also regulated by Norwich’s Historic Design Overlay. This overlay zone allows for the conversion of historic mill buildings to “any use permitted in multi-family, neighborhood commercial, Chelsea Central district, general commercial, planned commercial, and business park” provided certain criteria are met.<sup>6</sup>

### Environmental Conditions

As mentioned earlier, the three strategic sites have long industrial pasts, which have contributed to their environmental contamination. Tighe & Bond reviewed city and state files to identify any known environmental conditions as well as any previous environmental investigations and remediation work. (The environmental information gathered for the Shipping Street Area focuses on the four properties owned by WISP Partners. While the information is not representative of the other properties in the Shipping Street Area, it provides an example of the type of contamination that could exist in the broader area.)

The environmental information is summarized below.

#### Chestnut Street Mills

*Historical use concerns<sup>7</sup>*

##### 77 Chestnut Street

- 1885 – Beer Bottling Works
- 1897 – Carpet Cleaning and Beer Bottling Works
- 1903 – D.M. Wilson Steam Carpet Cleaning & Dye Works
- 1914 – Norwich Nickel & Brass Company and the Pequot Brass Foundry
- 1926 – J.B. Martin Company (manufacturers of silk velvet)
- 1949 – Norwich Paper Box Company

##### 132-176 Franklin Street

- 1885 – Hopkins & Allen Pistol Factory, Sibley Machine Company, Allen’s Spool & Printing Company, Lester & Wasley Envelope Manufacturing, Norwich Nickel Company
- 1897 – Hopkins & Allen Fire Arms and Bicycle Factory
- 1903 – Hopkins & Allen Arms Company
- 1914 – Hopkins & Allen Arms Company
- 1926 – J.B. Martin Company (manufacturers of silk velvet)
- 1949 – J.B. Martin Company (manufacturers of silk velvet)
- 1970 to 2005 – Norwich Textiles, SMS Textiles, and Rose City Dyeing

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<sup>6</sup> Norwich Zoning Ordinance, Sec. 7, Historic Design Overlay, <http://library.municode.com/index.aspx?clientId=11363&stateId=7&stateName=Connecticut>

<sup>7</sup> Obtained from available Sanborn maps as well as state and City files

*Previous Investigations*

A Pre-Demolition Hazardous Materials Inspection Report dated March 2012, prepared by Eagle Environmental was provided by the City of Norwich. According to the report, the front 3-story building was constructed in 1895 and the 2-story rear building was constructed in the early 1900s. At the time of the inspection, the roof of the front building was collapsed and therefore, the interior of this building could not be inspected. Furthermore, Eagle did not sample building caulk for PCBs since they determined that the building caulking was original and applied prior to 1930s. According to the report, asbestos containing materials (ACM) including roofing, window and door caulking and glazing were found in association with the on-site buildings. ACM floor tile and pipe insulation were identified in the rear building. Hazardous levels of lead based paint were identified in association with wood window and door systems and some interior components of the rear building. Various universal wastes including mercury containing equipment and fluorescent lights, and PCB containing lighting ballasts were identified in the rear building. The report stated that with the collapse of the front building's roof, asbestos roofing debris was observed throughout the interior of the structure, and may require disposal of all debris as asbestos containing material.

There are no other known previous investigations for the 77 Chestnut Street parcel. However, CTDEEP inspected the property in 1992 due to a release of oil and found numerous hazardous materials and hazardous waste violations. No previous environmental site assessments have been identified for the 132-176 Franklin Street parcel however, a site plan for the facility dated November 2000 was on file at the CTDEEP. According to the site plan, a 10,000-gallon fuel oil UST and two 10,000-gallon chemical ASTs exist. The site plan also identifies dye areas, chemical storage areas, waste holding areas, a waste water treatment system, sumps throughout the building, and several electrical transformers. Various correspondence was observed on file at CTDEEP for the 132-176 Franklin Street parcel documenting CTDEEP inspections. Over 60 drums of waste and raw materials related to former textile operations were identified by CTDEEP. Inspections also identified suspect asbestos containing pipe insulation within the buildings.

*Remedial Activities*

According to information on file at CTDEEP the aforementioned drums of waste and raw materials were reportedly removed by the former owner of the site in 2006. The former owner reportedly used some of the materials and gave the rest away to other textile manufacturing companies.

*Regulatory Information*

The property at 132-176 Franklin Street has been issued two Notices of Violation by CTDEEP in 2006 and 2007 related to hazardous waste and chemical storage violations. CTDEEP correspondence also indicates that the site transferred ownership in 2006 (from Norwich Textile to Franklin St., LLC) and should have been subject to the Transfer Act. It appears that the City of Norwich foreclosed on the 77 Chestnut Street property in 2011 and is the current owner.

## Shipping Street Area

### *Historical use concerns*

#### 55 & 67 Terminal Way

- 1897 – 1903 Uncas Paper Mill (large boiler houses and coal storage houses)
- 1914 – American Strawboard Company
- 1926 – Uncas Paperboard Company
- 1949 – Dahl Ice Storage and Kenneth & Church Co. Awning Printing and Coating

#### 340 West Thames and 60 Terminal Way

- 1885 – Cold Spring Iron Works
- 1949 – Dahl Oil Company (large capacity storage of gasoline, fuel oil, kerosene)

### *Previous Investigations*

Phase I and Phase II ESAs were conducted in 1992 that included the following properties: 340 West Thames, 60 Terminal Way, and 55 Terminal Way. No investigations are known to exist for 67 Terminal Way. The Phase I identified eleven areas of concern (AOCs):

#1 Garage/Boiler House

#2 Dispatch Office/Loading Racks

#3 Southern ASTs (total 4)

#4 AST 6

#5 AST 10

#6 AST 11

#7 Doco Containment (three 15,000-gallon USTs)

#8 Hillside beneath southern ASTs

#9 Bulkhead area (55 Terminal Way)

#10 10,000-gallon waste oil tank

#11 Former septic system (location unknown)

Nine of these were evaluated as part of the Phase II ESA (AOC #1 through #7, #9 and 10). Petroleum releases were detected at all nine AOCs evaluated. Separate phase product was observed in the groundwater near AST 11. Fill material consisting of slag, cinders, and coal was identified in various areas on-site extending from 2.5 feet bg to 5.0 feet bg. Depth to groundwater ranges from 2 to 18 feet below grade.

### *Remedial Activities*

In 1998 removal of five out of service USTs occurred including three 15,000-gallon USTs, a 20,000-gallon UST near a concrete loading pad, a 1,000-gallon UST near the dispatch office, and two concrete vaults used to collect petroleum products from dispensing lines. Ninety (90) tons of impacted soils were excavated and disposed off-site. Nine excavation samples were collected and analyzed for TPH (418.1) and volatile aromatic compounds (8021B). From January to October 1994 approximately 2700 gallons of petroleum product was removed from groundwater.

### *Regulatory Information*

The site (all parcels except 67 Terminal Way) was enrolled in the CTDEEP Property Transfer Program in 2005 via a Form III and ECAF filing. The Certifying Party is listed as WISP Partners. A 2005 Internal CTDEEP memo states the extent of petroleum contamination at the site has not been determined. In 2006 schedule of investigation for the site was submitted to CTDEEP by WISP stating investigations would be completed by 2008. It does not appear that any additional investigations have been conducted at the site since the Phase I and Phase II ESAs in 2006.

### South Mill of Ponemah Mills

#### *Historical use concerns*

- 1926 – Ponemah Mills (weaving shed and boiler house)
- 1949 – Virginia –Carolina Chemical Corporation (manufacturing of protein fibers)

#### *Previous Investigations*

There are no known previous investigations for this parcel. Numerous investigations and remedial activities have been conducted for the parcel to the north (607 Norwich Ave). A site plan found on file at CTDEEP (date unknown) depicts a 500 gallon gasoline tank, 1,000-gallon fuel oil tank, and several transformers on the site. A DEEP memo dated March 2001 states that Central Sports has occupied this parcel for approximately 15 years. Central Sports is a motor cycle, outboard motor, bicycle, and used boat sales and service facility. Wastes generated at this facility identified by CTDEEP include waste motor oil, waste gear oil, waste transmission fluid, batteries, and oil filters. Waste oils were reportedly stored in a 275-gallon AST and approximately 400-gallons of waste oil were generated per year and shipped off-site by Western Oil.

#### *Remedial Activities*

No remedial activities are known to have been conducted at the site.

#### *Regulatory Information*

According to information provided by the City of Norwich, the current owners of the site performed removal of lead paint interior to the building. These removal activities were conducted illegally and included disposal of waste into crawlspaces beneath the building. It is believe that legal enforcement actions were brought against these site owners.

# Brownfield Reuse Scenarios

Reuse scenarios have been created for the three strategic brownfield sites. These scenarios are meant to illustrate potential ways in which the sites could be redeveloped. They are not intended to restrict future development options; instead, they are *examples* of reuse scenarios and how the City could proceed with assessment, remediation and redevelopment.

## Reuse Scenarios

### Chestnut Street Mills

The reuse scenario for Chestnut Street Mills is a mixed-use development as shown in Figure 7 and described below. Proposed parking and circulation changes have been incorporated into the reuse scenario. Also identified are infrastructure needs such as utilities and new roads.

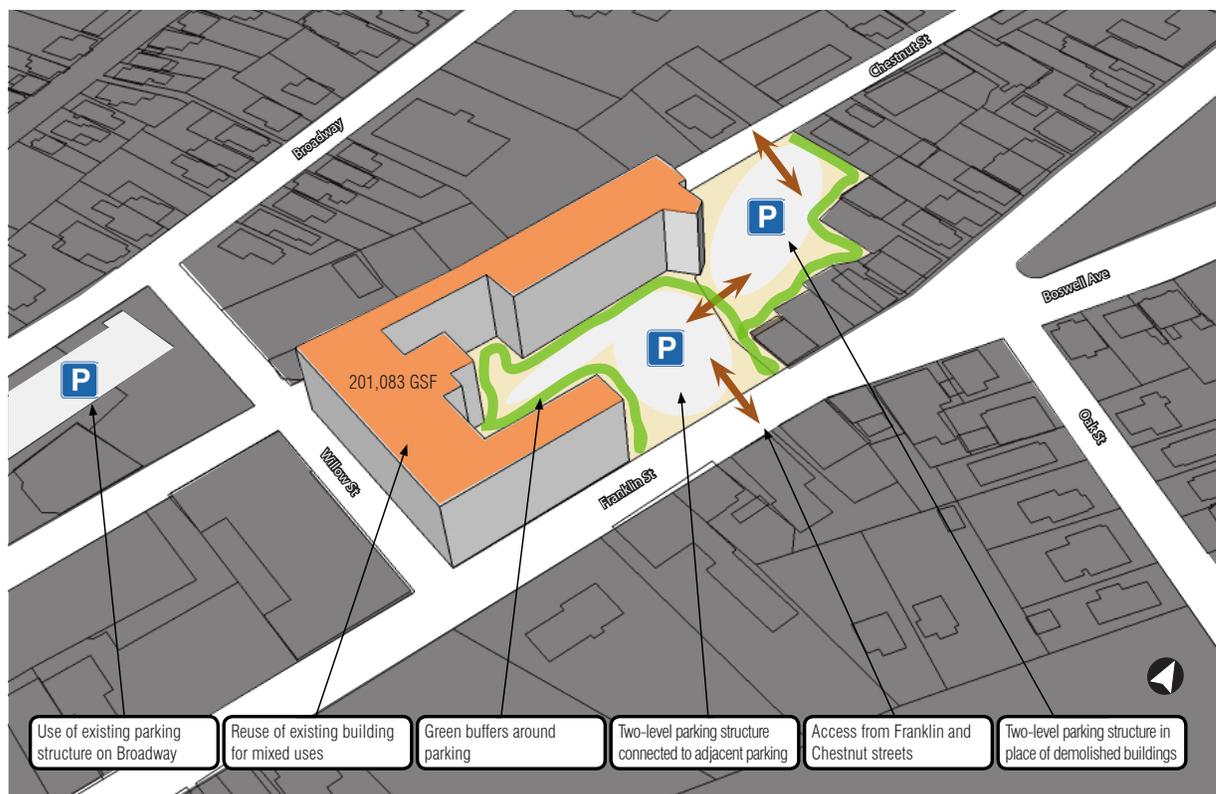


Figure 7



Figure 8



Figure 9

- > 77 Chestnut Street – The City-owned buildings at 77 Chestnut Street – the northern property in Figure 8 – should be demolished after any required assessment and remediation. The buildings are in very poor condition, and as such, they detract from the neighborhood and pose as potential health and public safety hazards. Taking the derelict buildings down would increase safety in the neighborhood by removing the hazard. Other benefits would likely include cleaning up the area (environmental justice), increasing the value of surrounding residential homes, potentially reducing crime and connecting the upper and lower portions of the Franklin and Chestnut Street neighborhood.

A 2-story parking structure should be developed in place of the demolished buildings at 77 Chestnut Street to support the redevelopment of the adjacent property, 132-176 Franklin Street. The parking structure should be accessed from Chestnut Street as well as Franklin Street.

- > 132-176 Franklin Street – The 5-story building at 132-176 Franklin Street, shown in Figure 9, should be redeveloped into a mixed-use development that includes commercial uses on the ground and second floors and housing on the third and fourth floors. (The basement could be used for storage.)

The inner portions of the buildings, which are roughly one story high, should be demolished to make room for a new two-level parking deck. Drivers should be able to access the parking structure from Franklin Street as well as from the new parking deck at 77 Chestnut Street. Landscaping – green buffers – should be provided around the parking structure.

- > Parking Spaces – The two properties could accommodate roughly 245 parking spaces if two levels of parking were created. This is almost enough spaces to meet the estimated parking demand created by the redevelopment of the former mill building at 132-176 Franklin Street. (See chart below.) There may be a need to lease parking spaces from the existing municipal parking structure on Broadway. That structure

is within walking distance – a block – from the Franklin Street building. Currently, the majority of the parking spaces in the structure are reserved for City Hall employees; however, there are additional lots near City Hall that could be used by City employees, which would free up spaces for the redeveloped mill building.

- > Streetscape Improvements –Franklin and Chestnut streets should be enhanced with trees, lighting and/or other streetscape improvements. Such improvements would help make the area more pedestrian friendly as well as more attractive.
- > Utilities – The building at 132-176 Franklin Street is fully served by utilities, including water, sewer and electricity. These utilities may need to be upgraded depending on the condition of the utilities and the ultimate uses of the site (e.g., end user).

A summary of the program of redevelopment for the Chestnut Street Mills – specifically 132-176 Franklin Street – is shown in the Table 4. A detailed program is provided in Appendix D.

Table 4

Floor	Use	Est. Gross SF*	Est. Net SF*	# Units	Parking Required**	Est. Parking Demand**
Basement (unfinished)	Commercial/storage	39,905	27,934		0	0
First Floor	Commercial (retail)	40,941	28,659		143	123
Second Floor	Commercial (office)	40,079	28,055		94	80
Third Floor	Residential	40,079	28,055	29	72	43
Fourth Floor	Residential	40,079	28,055	29	72	43
<b>Total</b>		<b>201,083</b>	<b>140,758</b>	<b>58</b>	<b>380</b>	<b>289</b>

\* Estimated gross SF is based on Norwich Assessors Online Database. Estimated net SF is 70 percent of gross SF.

\*\* Parking required is based on zoning requirements. Estimated parking required is based on lower parking requirements. For example, City may modify the parking requirement if uses can share parking. For residential units, the estimated parking demand provides 1.5 spaces per unit.

### Shipping Street Area

The reuse scenario for the Shipping Street Area has been broken into two sections or phases – middle Shipping Street and lower Shipping Street – as shown in Figure 10. (The figure also highlights the WISP Partner properties, which are included in the lower Shipping Street area.) This was done to acknowledge and consider the different neighborhoods surrounding the area as well as the range of uses that could best take advantage of the existing buildings and land. By breaking the large site into smaller sections with different uses, the Shipping Street Area will be better able to accommodate and react to changing market conditions.

The reuse scenario for the Shipping Street Area also considers the vision described in “A Waterfront Vision,” developed by the Norwich Harbor Management Commission.<sup>8</sup> That document envisions a “compatible mix of water-dependent and water-enhanced commercial, industrial, and recreational uses” as well as residential uses.<sup>9</sup>

It calls for amenities for public access to the river.

8 City of Norwich Harbor Management Commission, “A Waterfront Vision,” Sept. 2011, p.14.

9 Ibid.

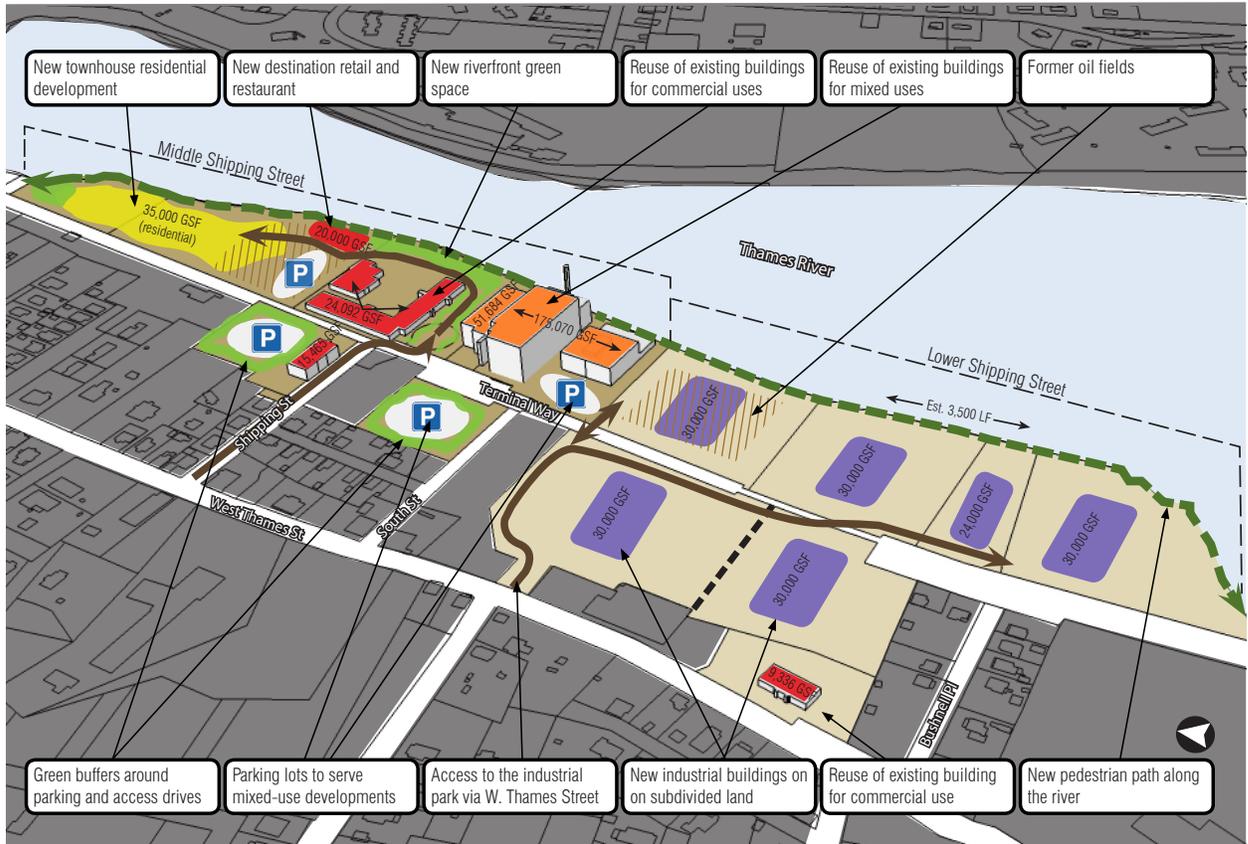


Figure 10

The reuse scenario is shown in Figure 10 and described below. It incorporates parking and circulation changes as well as infrastructure needs that will likely be required to support the area’s redevelopment.

#### Middle Shipping Street: Mixed Use

- > 46 and 39 Shipping Street – The two most northern properties, 47 Shipping Street Off and 39 Shipping Street, are vacant and remediated, and they should be developed into housing, specifically roughly 25 townhouses. This use would not only complement the existing residential neighborhoods to the northwest but would take advantage of the potential river views. The townhouses are proposed to be two-bedroom units of roughly 1,400 square feet each. Green space should be incorporated into the residential townhouse development, providing an amenity to residents.

The southern end of the two Shipping Street properties should include a new destination retail/restaurant building that looks out onto the Thames River. That commercial building would help attract people to the riverfront and would serve residents who move into the Shipping Street Area. It would also serve as a transition point between the new residences and the commercial buildings to the south (described below). A surface parking lot should be provided near the new destination retail/restaurant building to support the new development.



Figure 11

- > 1 Terminal Way and 26 Shipping Street – The existing buildings at 1 Terminal Way and 26 Shipping Street should be reused as commercial space. The buildings, which are currently vacant, could serve both new residents in the Shipping Street area as well as the existing neighborhoods to the north and west.

A surface parking lot should be developed behind 26 Shipping Street – a City-owned property – to support the new commercial uses. The property to the east of the City property, 24 Shipping Street, should remain vacant, serving as a buffer between the new commercial uses and the residential homes to the west on Shipping Street.

An access drive that connects Shipping Street to the new commercial uses at 1 Terminal Way and 39 Shipping Street should be created. It would cross 11 Terminal Way and provide access to the new townhouse development to the north. Green buffers should be established around the access drive as well as the new parking lot at 26 Shipping Street.

- > 21 and 27 Terminal Way – The existing buildings at 21 and 27 Terminal Way, shown in Figure 11, should be redeveloped into mixed-use properties. (One of the buildings is currently occupied by a storage business. This business should be relocated.) The properties should consist of half commercial space and half residential space. The residential space, proposed to be two-bedroom units, should be located on the upper floors, providing views of the Thames River. Residents who move into the riverfront housing would help support the new commercial uses in the Shipping Street Area.

A parking lot should be established on the property to serve the mixed-use development, and another lot should be created at 28 South Street, which is currently vacant.

- > Pedestrian Path –A new pedestrian path that is accessible to the public should be established along the Thames River. It should stretch the entire length of the Shipping Street Area if possible and should provide access to the river and future boat launches, which could be established. A new riverfront green space should also be created next to the pedestrian path on 39 Shipping Street. These types of amenities would

help open up the riverfront to the broader community, while supporting new commercial development by attracting people to the Shipping Street Area.

#### Lower Shipping Street: Industrial Use

- > 296 West Thames St and 55,67 and 60 Terminal Way – The existing buildings on five properties in this lower Shipping Street area (296 West Thames Street and 55, 67 and 60 Terminal Way) should be demolished to make way for a new industrial subdivision. (The largest property, 60 Terminal Way, could be subdivided into two industrial parcels.) This subdivision would provide prime land for industrial development, with direct access to the river as well as an active rail line. Interstate 395 is also located nearby to the south.

The industrial subdivision could include six industrial sites, which could accommodate buildings of roughly 24,000 to 30,000 gross square feet. The sites could be aggregated to accommodate a larger business if necessary. The goal is to provide flexible land for future industrial uses. These uses could include light manufacturing, pharmaceutical facilities and clean technology, such as renewable energy, information technology.

- > Main Access Road – A new main access road on West Thames Street should be developed on 60 Terminal Way, across from Allyn Avenue. The road would start from 60 Terminal Way’s frontage on West Thames Street and continue south to Bushnell Place. It would provide frontage and access to the industrial subdivision without adding significant traffic on South and Shipping streets, which would largely serve the mixed-use and residential areas to the north.
- > 340 West Thames Street – The existing building at 340 West Thames Street, which is currently vacant, should be reused as commercial space. The building has access on a major road, which would help support a commercial use.

#### Overall Infrastructure Needs and Costs

The Shipping Street Area, according to the City’s Planning Director, requires significant infrastructure improvements, including water and sewer line upgrades, Combined Sewer Separation work, new electricity, and roadwork. The initial work could cost roughly \$5 million.

That \$5 million figure is based on a bond proposal submitted but withdrawn last year for improvements to the Shipping Street harbor area. That proposed bond would have paid for a wide range of work, including improvements to “roads, drainage, bridges and bridge structures, utility (water, sewer, electricity, natural gas), brownfield remediation, alternative energy facilities” and any improvements “intended to facilitate and increase the use of the Thames River in the Harbor Area for transportation, business, recreation and economic development proposes.”<sup>10</sup> This could have included improvements to piers and docks, boat launch facilities, parks and parking, among other things. The bond could have paid for land and easement acquisition.

The conceptual program of redevelopment for the Shipping Street Area is shown in Table 5. A detailed program is provided in Appendix D.

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<sup>10</sup> Journal of the Council of The City Of Norwich, August 15, 2011.

Table 5

Use	Est. Gross SF*	Est. Net SF*	# Units	Parking Required**	Est. Parking Demand**
Commercial	182,033	127,243		510	323
Commercial/storage	17,468	12,228		0	0
Residential	108,208	75,746	102	256	179
Industrial	174,000	139,200		46	46
<b>Total</b>	<b>481,709</b>	<b>354,417</b>	<b>102</b>	<b>812</b>	<b>548</b>

\*Estimated gross SF is based on Norwich Assessors Online Database. Estimated net SF is 70 percent of gross SF for residential and commercial uses and 80 percent of gross SF for industrial uses.

\*\*Parking required is based on zoning requirements. Estimated parking required is based on lower parking requirements. For example, City may modify the parking requirement if uses can share parking. For residential units, the estimated parking demand provides 1.5 spaces per unit. The parking demand for industrial uses is the same as the required amount of parking.

### South Mill of Ponemah Mills

The reuse scenario for the South Mill of Ponemah Mills, 555 Norwich Avenue, is a mixed-use development as described below. A site plan for the former mill building's redevelopment, shown in Figure 12, has been provided by the developer to the City as part of the redevelopment of Ponemah Mills. Parking around the South Mill is expected to serve that building's redevelopment while also supporting the reuse of the North Mill for housing.

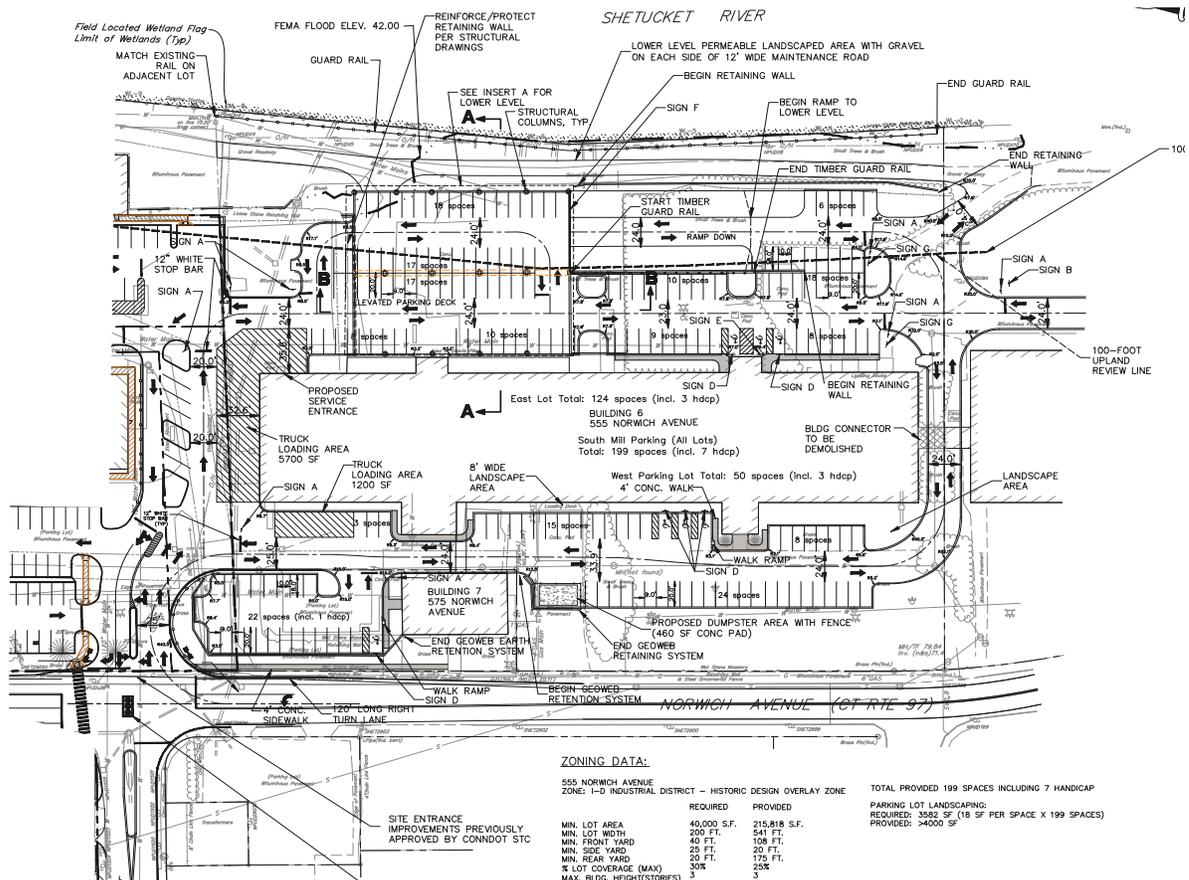


Figure 12

Source: <http://wan.hrpassociates.com/South%20Mill/Civil/PDF/>



Figure 13

- > 555 Norwich Avenue – The South Mill, shown in Figure 13, should be redeveloped into a mixed-use project that is roughly half commercial and half residential. The residential portion, which is proposed here as two-bedroom units, should largely occupy the upper floors, providing residents with views of the Shetucket River. (As mentioned earlier, the North Mill is expected to be redeveloped into apartments.) The main access to the South Mill is expected to continue to be on Norwich Avenue through a driveway on the northern edge of the property.
- > Utilities – The South Mill is fully served by utilities, including water, sewer and electricity. These utilities may need to be upgraded depending on the condition of the utilities and the ultimate uses of the site (e.g., end user). A fiber optic line runs past the building on Norwich Avenue; however, it is currently only used for fast networking and internet between Norwich Public Utilities (NPU) and other City entities such as schools and police for their camera systems, according to NPU.

The conceptual program of redevelopment for the South Mill is shown in Table 6. A detailed program is provided in Appendix D.

Table 6

Use	Est. Gross SF*	Est. Net SF*	# Units	Parking Required**	Est. Parking Demand**
Commercial	145,042	101,529		508	305
Residential	137,850	96,495	115	287	172
<b>Total</b>	<b>282,892</b>	<b>198,024</b>	<b>115</b>	<b>795</b>	<b>477</b>

\*Estimated gross SF is based on Norwich Assessors Online Database. Estimated net SF is 70 percent of gross SF for residential and commercial uses.

\*\*Parking required is based on zoning requirements. Estimated parking required is based on lower parking requirements. For example, City may modify the parking requirement if uses can share parking. For residential units, the estimated parking demand provides 1.5 spaces per unit.

## Jobs and Property Taxes

While there are many benefits to remediating and redeveloping brownfields in Norwich, there is one benefit that is considered a top priority by the RDA and City of Norwich – job creation. The consultant team has therefore *estimated* the number of jobs that could be created by redeveloping the three strategic brownfield sites in accordance with the reuse scenarios described earlier. The estimated increase in property taxes has also been calculated.

### Jobs

The three strategic brownfield sites could potentially produce 1,291 jobs, as shown in Table 7.

Table 7

Strategic Brownfield Site	Proposed Use	Est. Gross SF*	Square Feet per Job**	Est. Jobs Created
Chestnut Street Mills				
	Commercial (retail)	40,941	650	63
	Commercial (office)	40,079	300	134
	Subtotal	201,083		197
Shipping Street Area				
	Commercial (restaurant)	20,000	200	100
	Commercial (office/retail)	162,033	475	341
	Industrial	174,000	500	348
	Subtotal	481,709		789
Ponemah Mills (South Mill)				
	Commercial (office/retail)	145,042	475	305
	Subtotal	282,892		305
<b>Total</b>				<b>1,291</b>

\*Estimated gross SF is based on Norwich Assessors Online Database

\*\*The square feet per Job estimates are based on standards provided by Rutgers University. The ratio used for commercial uses (office/retail) is an average of the office and retail standards.

### Property Taxes

The three strategic brownfield sites could potentially generate roughly \$728,275 in *additional* property tax revenue to the City, as shown in Table 8. This figure is conservative as it is based only on the anticipated increased value of the building; it does not take into account any increases in land value or personal property taxes. It is also based on the average taxes per square foot currently generated by properties in the same zoning district.

Table 9

Strategic Brownfield Site	Est. Existing Taxes	Est. New Taxes	Est. Increase in Taxes
Chestnut Street Mills	\$14,555	\$180,334	\$165,779
Shipping Street Area	\$88,697	\$ 444,930	\$356,233
Ponemah Mills (South Mill)	\$16,839	\$223,103	\$206,263
<b>TOTAL</b>	<b>\$120,091</b>	<b>\$848,366</b>	<b>\$728,275</b>

## Brownfields Funding Opportunities and Costs

Table 9 shows the funding sources that could be used to support the assessment, clean up and redevelopment of the three strategic brownfield sites.

Figure 9

## TARGETED BROWNFIELDS SITES

Name	Address	Owner / Responsible Party	Type of Contamination	Activity A - Assessment C - Cleanup R - Redevelopment	GRANTS					LOANS					Comments
					State		Federal			State		Federal			
					A, C, R	A, C	A	C	A	Planning only	A, C	C, R	A, C	C	
Chestnut Street Mills	77 Chestnut Street	City of Norwich	Unknown		X	X	X	X	X	X	X				This property does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
	132 Franklin Street	Franklin Street LLC / Rose City Dyeing & Finishing - Norwich Textiles	Hazardous Substance and Petroleum		X	X	X	X	X	X	X				
Ponemah Mills	555 Norwich Avenue	555 South Mill, LLC	Unknown		X	X	X	X	X	X	X				This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
	607 Norwich Avenue	Ponemah Riverbank, LLC / Helikon Furniture Company	Hazardous Substance and Petroleum		X	X	X	X	X	X	X				
Shipping Street Area	340 West Thames Street	W/SP Partners / Louis Dreyfus Energy	Hazardous Substance and Petroleum		X	X	X		X	X					This property has had some assessment and remediation activities completed. Additional assessment activities are needed to determine if additional remediation is required.
	55, 60, 67 Terminal Way	W/SP Partners / Louis Dreyfus Energy	Hazardous Substance and Petroleum		X	X	X		X	X					

## Environmental Assessment and Cleanup Needs

Based on the environmental information available, the following are recommendations for future environmental investigations or assessments and potential remedial work. Conceptual cost estimates for the work have been provided as a preliminary estimate based on similar projects but cannot actually be determined until completion of the assessments.

### Chestnut Street Mills

#### *Recommendations for Investigation and Conceptual Cost Ranges*

We would recommend completion of the following investigations for the site.

- > Phase I ESA = \$4,000 – 5,000
- > Phase II ESA = \$30,000 – 40,000
- > Phase III ESA = \$60,000 – 80,000
- > Hazardous Building Material Surveys = \$5,000 – 6,000
- > Remedial Action Plan = \$ 6,000 – 8,000

These conceptual cost ranges are based on the limited information available for the site (as described above). The actual costs of the Phase II ESA will be dependent upon the findings of the Phase I ESA and the actual cost of the Phase III ESA would be dependent upon the findings of the Phase II ESA. The conceptual cost range for the hazardous building materials survey is based on the fact that a partial survey has already been conducted. The actual cost would be dependent upon the types and quantities of building components suspected to contain asbestos, lead, and/or PCBs. Furthermore, the conceptual cost range for the Remedial Action Plan is based on our experience with Brownfields sites that have similar operational histories (i.e. industrial since 1800s). However the actual cost will be based on the number of areas requiring remediation and the remedial alternatives selected for the site.

#### *Potential Remedial Scenarios and Conceptual Cost Ranges*

Redevelopment of the site is slated for mixed use including residential and commercial. Based on our experience with similar Brownfields redevelopment projects, potential soil remedial scenarios that can be implemented as part of redevelopment can likely include excavation of “hot spots,” capping of impacted soils under buildings and parking areas, and use of Environmental Land Use Restrictions. We have developed the following potential remedial cost estimates based on available data for the site, our remedial experience with similar Brownfields sites, and proposed redevelopment plans. Please note that these are only potential conceptual costs and should not be used for planning purposes. Completing the investigations recommended above would support development of an opinion of probable remediation and abatement costs for planning purposes.

- > Conceptual cost range for soil remediation = \$200,000 – 300,000

This conceptual cost range is based on the size of the site (2.53 acres), former site operations including metal working and foundry operations from late 1800s to 1950s, and textile manufacturing from the 1950s to 2005 as well as the assumption that various hazardous chemicals and hazardous wastes were likely stored at the site for

the past 100 years. It assumes that up to 100 tons of non-hazardous soils will be excavated and disposed off-site and capping of remaining soil impacts with the on-site building and paved parking areas.

At this time, conceptual cost ranges for groundwater remediation cannot be developed since remedial activities for groundwater tend to be specific in nature. Groundwater remediation alternatives can include common tasks such as chemical oxidation and monitored natural attenuation, or can require elaborate pump and treat systems depending upon the nature and extent of groundwater contamination.

Following completion of remedial activities, groundwater monitoring and long-term maintenance of engineered controls (caps) will need to be completed. The conceptual cost range for groundwater monitoring provided below is based on the assumption that six (6) groundwater monitoring wells will be sampled for extractable total petroleum hydrocarbons (ETPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and reasonable confidence protocol (RCP) metals for four to five years. The conceptual cost range for the ELUR is based on the assumption that the building and paved parking will serve as a cap for contamination. The conceptual cost range includes document preparation, survey, land record filing, and maintenance of pavement for up to 20 years. It does not include the initial installation of cap or pavement as these are typically covered under development costs (i.e. site grading and construction of buildings and parking facilities).

- > Conceptual cost range for groundwater monitoring = \$80,000 – 100,000
- > Conceptual cost range for ELUR and long-term maintenance of engineered cap = \$200,000 – 300,000

Abatement of hazardous building materials will likely be required to renovate/demolish existing buildings. According to the Pre-Demolition Hazardous Materials Inspection Report dated March 2012, prepared by Eagle Environmental, cost estimates for abatement of hazardous materials identified totaled \$150,000 for the front building and \$37,000 for the rear building. These totals did not include estimates for potential PCB containing caulking that may be associated with the buildings.

- > Conceptual cost range for abatement of hazardous building materials = \$ 200,000 – 300,000.

The conceptual cost range for abatement of hazardous building materials is based estimates provided by Eagle, assumptions that there are additional hazardous materials associated with the front building and the fact that there may be PCB containing caulking associated with the buildings. However, the actual cost would be dependent upon the types and quantities of asbestos, lead, and/or PCBs requiring abatement.

- > Conceptual Cost Range Total for Investigations and RAP = \$ 105,000- 140,000
- > Conceptual Cost Range Total for Remediation = \$ 680,000 – 1,000,000
- > *Estimated conceptual cost range totals for investigation and remediation = \$785,000 – 1,140,000.*

## Shipping Street Area

### *Recommendations for Investigation and Conceptual Cost Ranges*

It appears that previous investigations did not evaluate all AOCs for the site and only considered existing uses at that time (Dahl Oil Company). The property at 67 Terminal Way does not appear to have had any investigations.

We would recommend completion of the following investigation for the site.

- > Phase I ESA = \$6,000 – 7,000
- > Phase II ESA = \$60,000 – 70,000
- > Phase III ESA = \$80,000 – 100,000
- > Hazardous Building Material Surveys = \$15,000 – 20,000
- > Remedial Action Plan = \$8,000 – 10,000

These conceptual cost ranges are based on the limited information available for the site (as described above). The actual costs of the Phase II ESA will be dependent upon the findings of the Phase I ESA and the actual cost of the Phase III ESA would be dependent upon the findings of the Phase II ESA. The conceptual cost range for the hazardous building materials survey is based on the size and age of the structure, but the actual cost would be dependent upon the types and quantities of building components suspected to contain asbestos, lead, and/or PCBs. Furthermore, the conceptual cost range for the Remedial Action Plan is based on our experience with Brownfields sites that have similar operational histories (i.e. industrial since 1800s). However the actual cost will be based on the number of areas requiring remediation and the remedial alternatives selected for the site.

#### *Potential Remedial Scenarios and Conceptual Cost Ranges*

Redevelopment of the site is slated for mixed use including residential, commercial, light- industrial, and open space. Based on our experience with similar Brownfields redevelopment projects, potential soil remedial scenarios that can be implemented as part of redevelopment can likely include excavation of “hot spots,” capping of impacted soils under buildings and parking areas, and use of Environmental Land Use Restrictions. We have developed the following conceptual remedial cost ranges based on available data for the site, our remedial experience with similar Brownfields sites, and proposed redevelopment plans. Please note that these are only potential conceptual costs and should not be used for planning purposes. Completing the investigations recommended above would support development of an opinion of probable remediation and abatement costs for planning purposes.

- > Conceptual cost range for soil remediation = \$1,000,000 – 2,000,000

This conceptual cost range is based on the size of the site (11.37 acres), former site operations including paper manufacturing 1800s to 1930s and a petroleum bulk storage facility from 1930s to 2005, as well as the assumption that various hazardous chemicals and hazardous wastes were likely stored at the site as part of paper manufacturing operations. It assumes that up to 100 tons of non-hazardous soils will be excavated and disposed off-site and capping of remaining soil impacts with the on-site building and paved parking areas.

At this time, conceptual cost ranges for groundwater remediation cannot be developed since remedial activities for groundwater tend to be specific in nature. Groundwater remediation alternatives can include common tasks such as chemical oxidation and monitored natural attenuation, or can require elaborate pump and treat systems depending upon the nature and extent of groundwater contamination.

Following completion of remedial activities, groundwater monitoring and long-term maintenance of engineered controls (caps) will need to be completed. The conceptual cost range for groundwater monitoring provided below is based on the assumption that eight (8) groundwater monitoring wells will be sampled for ETPH,

VOCs, SVOCs, and RCP metals for four to five years. The conceptual cost range for the ELUR is based on the assumption that the building and paved parking will serve as a cap for contamination. The conceptual cost range includes document preparation, survey, land record filing, and maintenance of pavement for up to 20 years. It does not include the initial installation of cap or pavement as these are typically covered under development costs (i.e. site grading and construction of buildings and parking facilities).

- > Conceptual cost range for groundwater monitoring = \$100,000 – 200,000
- > Conceptual cost range for ELUR and long-term maintenance of engineered cap = \$500,000 – 800,000

Abatement of hazardous building materials will likely be required to renovate/demolish existing buildings.

- > Conceptual cost range for abatement of hazardous building materials = \$100,000 – 200,000.

The conceptual cost range for abatement of hazardous building materials from the four existing buildings is based on the size (~ 100,000 gross square feet) and age of the structures (1890 to 1935), but the actual cost would be dependent upon the types and quantities of asbestos, lead, and/or PCBs requiring abatement.

- > Conceptual Cost Range Total for Investigations and RAP = \$170,000- 207,000
- > Conceptual Cost Range Total for Remediation = \$1,700,000 – 3,200,000
- > *Estimated conceptual cost range totals for investigation and remediation = \$1,900,000 – 3,400,000.*

## South Mill of Ponemah Mills

### *Recommendations for Investigation and Conceptual Cost Ranges*

We would recommend completion of the following investigations for the site.

- > Phase I ESA = \$4,000 – 5,000
- > Phase II ESA = \$30,000 – 40,000
- > Phase III ESA = \$60,000 – 80,000
- > Hazardous Building Material Surveys = \$8,000 – 10,000
- > Remedial Action Plan = \$6,000 – 8,000

These conceptual cost ranges are based on the limited information available for the site (as described above). The actual costs of the Phase II ESA will be dependent upon the findings of the Phase I ESA and the actual cost of the Phase III ESA would be dependent upon the findings of the Phase II ESA. The conceptual cost range for the hazardous building materials survey is based on the size and age of the structure, but the actual cost would be dependent upon the types and quantities of building components suspected to contain asbestos, lead, and/or PCBs. Furthermore, the conceptual cost range for the Remedial Action Plan is based on our experience with Brownfields sites that have similar operational histories (i.e. industrial since 1800s). However the actual cost will be based on the number of areas requiring remediation and the remedial alternatives selected for the site.

## Potential Remedial Scenarios and Conceptual Cost Ranges

Redevelopment of the site is slated for mixed use including residential and commercial. Based on our experience with similar Brownfields redevelopment projects, potential soil remedial scenarios that can be implemented as part of redevelopment can likely include excavation of “hot spots,” capping of impacted soils under buildings and parking areas, and use of Environmental Land Use Restrictions. We have developed the following conceptual remedial cost ranges based on available data for the site, our remedial experience with similar Brownfields sites, and proposed redevelopment plans. Please note that these are only potential conceptual costs and should not be used for planning purposes. Completing the investigations recommended above would support development of an opinion of probable remediation and abatement costs for planning purposes.

- > Conceptual cost range for soil remediation = \$300,000 – 500,000

This conceptual cost range is based on the size of the site (5.06 acres), former site operations including textile manufacturing 1800s to 1940s, chemical manufacturing 1940s to circa 1960s, and more recently a motor repair facility, as well as the assumption that various hazardous chemicals and hazardous wastes were likely stored at the site for over 100 years. It assumes that up to 100 tons of non-hazardous soils will be excavated and disposed off-site and capping of remaining soil impacts with the on-site building and paved parking areas.

At this time, conceptual cost ranges for groundwater remediation cannot be developed since remedial activities for groundwater tend to be specific in nature. Groundwater remediation alternatives can include common tasks such as chemical oxidation and monitored natural attenuation, or can require elaborate pump and treat systems depending upon the nature and extent of groundwater contamination.

Following completion of remedial activities, groundwater monitoring and long-term maintenance of engineered controls (caps) will need to be completed. The conceptual cost range for groundwater monitoring provided below is based on the assumption that six (6) groundwater monitoring wells will be sampled for ETPH, VOCs, SVOCs, and RCP metals for four to five years. The conceptual cost range for the ELUR is based on the assumption that the building and paved parking will serve as a cap for contamination. The conceptual cost range includes document preparation, survey, land record filing, and maintenance of pavement for up to 20 years. It does not include the initial installation of cap or pavement as these are typically covered under development costs (i.e. site grading and construction of buildings and parking facilities).

- > Conceptual cost range for groundwater monitoring = \$80,000 – 100,000
- > Conceptual cost range for ELUR and long-term maintenance of engineered cap = \$200,000 – 300,000

Abatement of hazardous building materials will likely be required to renovate/demolish existing buildings.

- > Conceptual cost range for abatement of hazardous building materials = \$200,000 – 300,000.

The conceptual cost range for abatement of hazardous building materials is based on the size (~ 100,000 square foot, three story building) and age of the structure (1877), but the actual cost would be dependent upon the types and quantities of asbestos, lead, and/or PCBs requiring abatement.

- > Conceptual Cost Range Total for Investigations and RAP = \$108,000- 143,000
- > Conceptual Cost Range Total for Remediation = \$780,000 – 1,200,000
- > *Estimated conceptual cost range totals for investigation and remediation = \$900,000 – 1,350,000.*

# Action Plan

## Prioritization of Strategic Sites

- 5 The consultant team, steering committee and City officials have determined that Chestnut Street Mills and Shipping Street Area should be priority sites for redevelopment. This means the RDA and City should focus on actions that advance their redevelopment, including applying for funding to support environmental assessments and remediation.

Chestnut Street Mills is a priority site because the City owns one of the properties – 77 Chestnut Street – and therefore can proactively take steps to advance the site’s redevelopment in the near future. The crumbling structure at 77 Chestnut Street also poses as a potential health and public safety risk to the neighborhood, so the building should be taken down as expeditiously as possible.

The Shipping Street Area, on the other hand, cannot be quickly redeveloped, but the long-term benefits of remediating and reusing the site are significant given the large amount of land involved, the site’s location on the river and the potential for substantial change. In addition, there are steps the City can take – make infrastructure improvements – to help advance the site’s redevelopment and attract private investment.

While these two sites have been selected as priorities, efforts to reuse the South Mill of Ponemah Mills should continue. This should include looking for funding to support the remediation of the former mill building.

## Funding – Applicable Brownfield Funding Programs

There are numerous brownfield funding programs that can be used to support the redevelopment of the strategic brownfield sites. (Table 9 highlights these programs.) Of these programs, this plan recommends applying to the following programs in the next round of review:

Connecticut Department of Economic and Community Development (DECD)

- > Regional Brownfield Grant Program
- > Municipal Brownfield Grant Program

U.S. Environmental Protection Agency (EPA)

- > Community-Wide Assessment Grants
  - Community-Wide Hazardous Substances
  - Community-Wide Petroleum

The DECD programs can be used for a wide range of activities, including site investigation, abatement, demolition, cleanup and redevelopment planning, engineering design, remediation, site acquisition, site work and infrastructure improvements. The application limit is \$500,000, and the applicant and project partners cannot be responsible for property contamination. The programs are site specific.

The EPA assessment grants can be used citywide to assess private or City properties. The application limit is \$400,000 total (\$200,000 Hazardous Substances and \$200,000 Petroleum). The grants can be used for site inventory, site investigation, cleanup and redevelopment planning, and community outreach. More information about the DECD and EPA programs is included in Appendix E, which is a memorandum recommending that the City apply for them.

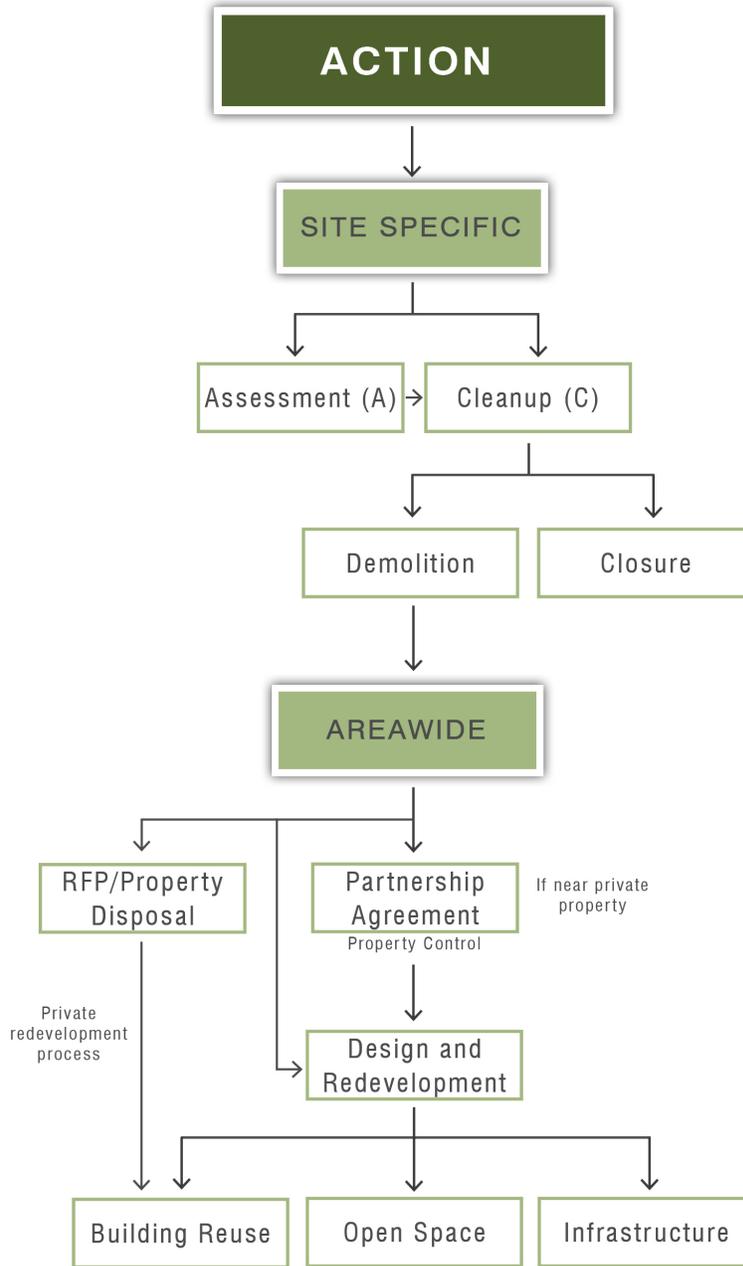
## Action Plans and Applicability to Other Sites

Figures 14 and 15 provide an Action Plan to advance the redevelopment of two different types of brownfields, City-owned and privately-owned properties. The actions outlined for City-owned brownfields could apply to 77 Chestnut Street as well as 26 Shipping Street, which is part of the Shipping Street Area. The actions outlined for privately-owned brownfields could apply to Ponemah Mills, 132-176 Franklin Street and the Shipping Street Area.

For each type of property – whether City- or privately-owned – the goal is to create positive change for the broader area. The Action Plan therefore shows how actions on a specific site can lead to area-wide benefits. The plan is intended to not only help advance the strategic brownfield sites but also assist the City in moving forward the assessment, remediation and redevelopment of the many other brownfields in Norwich.

# CITY-OWNED PROPERTY

77 Chestnut Street  
26 Shipping Street

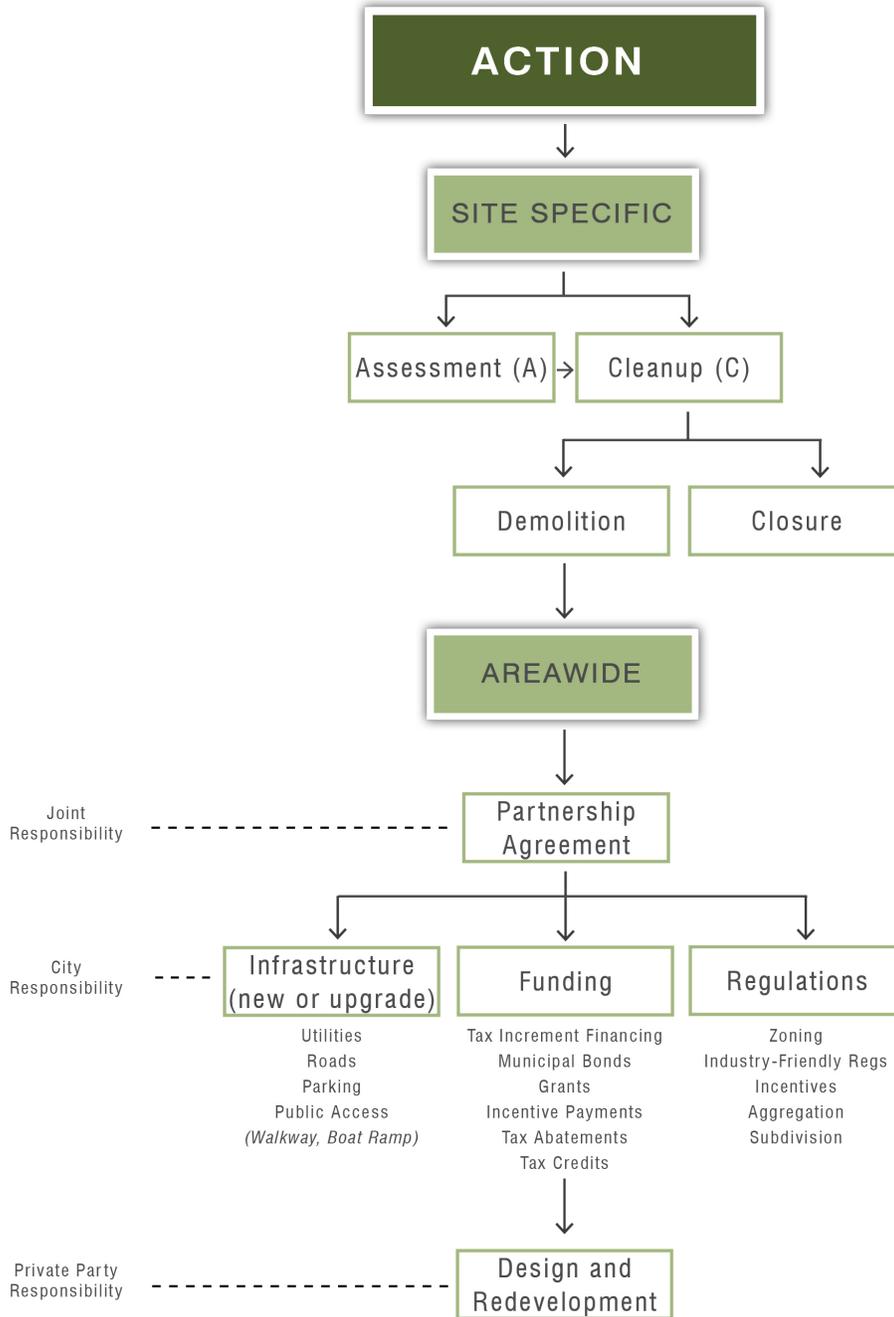


Note: (A), (C) and (R) refer to activities supported by brownfield funding sources. Appendix C lists the funding sources and indicates the types of activities - assessment, cleanup or redevelopment - each source supports. Note that EPA Brownfield Cleanup Grants can only be used on City-owned properties.

Figure 14

# PRIVATELY-OWNED PROPERTY

Ponemah Mills  
132-176 Franklin Street  
Shipping Street Area



Note: (A), (C) and (R) refer to activities supported by brownfield funding sources. Appendix C lists the funding sources and indicates the types of activities - assessment, cleanup or redevelopment - each source supports. Note that EPA Brownfield Cleanup Grants can only be used on City-owned properties.

Figure 15

## Application of Ideas to Other Brownfields

1. Different funding sources can be used for different types of actions – assessment, cleanup and redevelopment. There are also restrictions on some funding sources. Key restrictions and opportunities are as follows:

- > EPA brownfields cleanup grants can only be used on publically-owned sites.
- > EPA assessment grants may be used on any project throughout the City.
- > State cleanup grants are not restricted by private property ownership but are specifically assigned to a site.
- > Demolition grants are only available after completing assessments that show the need for demolition to remediate the identified conditions.
- > EPA loan programs can be used as forgivable loans for multiple sites with the money recycled until exhausted.

2. The creation of public-private partnerships is critical to the success of certain brownfield redevelopment efforts. The majority of the brownfields in Norwich are owned by private parties, so creating partnerships – and establishing partnership agreements – may be necessary to ensure application of City funds and grants provides the desired outcomes. Through negotiations and agreements, private property owners and the City can both benefit. For example:

- > If a City-owned property is near or adjacent to a privately-owned brownfields, a partnership agreement can be established whereby the City agrees to develop parking or other infrastructure or use on its site to support the private redevelopment of the adjacent site.
- > If the City is providing financial assistance to the redevelopment of a privately held property, the quid pro quo would be action by the property owner towards productive reuse.
- > The City could provide financial support to the remediation where that additional action supports a less restrictive ELUR that is an advantage to the redevelopment of higher value uses.

3. The redevelopment of brownfield sites can and should, in some cases, be broken up in phases to not only make projects more feasible but also to provide flexibility in future uses. For example, by breaking up the Shipping Street Area into multiple phases with different but complementary uses, the site can respond more easily to market changes and private investment. In addition, the success of one phase or section can also spark interest and action in another phase.

4. There are other incentives that the City can offer to encourage private developers to clean up and redevelop their brownfield properties. Incentives can include the following:

- > City funding through grants, loans and tax abatement.
- > Construction of infrastructure improvements to support a redevelopment plan.
- > Specific business- and/industry-friendly regulations, which show the City is prepared to accept a certain type of development. An example would be the recognition of special technical specifications and equipment for a certain industry.

## **Appendix: A**

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### Meeting Presentations



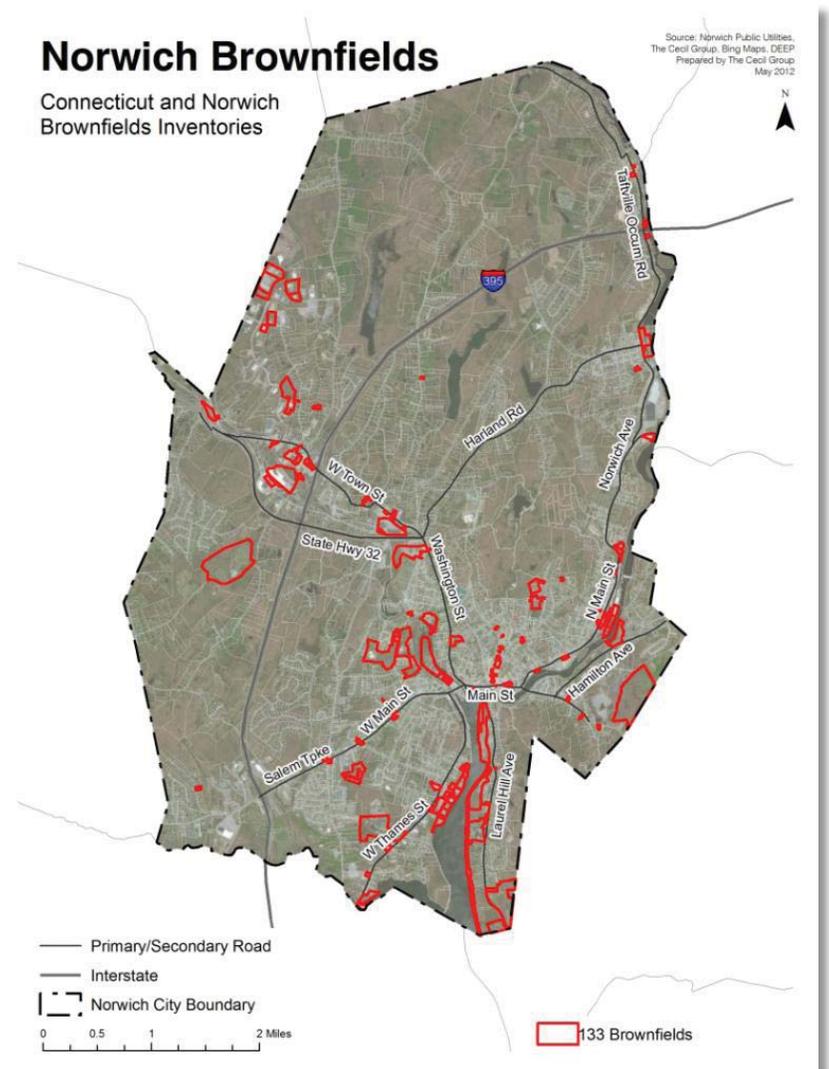
# NORWICH

**Area-Wide Brownfields Study**

August 27, 2012  
The Cecil Group  
Tighe & Bond

# Agenda

- Report Outline
- Brownfield Reuse Scenarios (3 Sites)
  - Reuse Scenarios
  - Assessment and Remediation Needs/ Recommendations
  - Conceptual Costs
- Action Plan
- Discussion



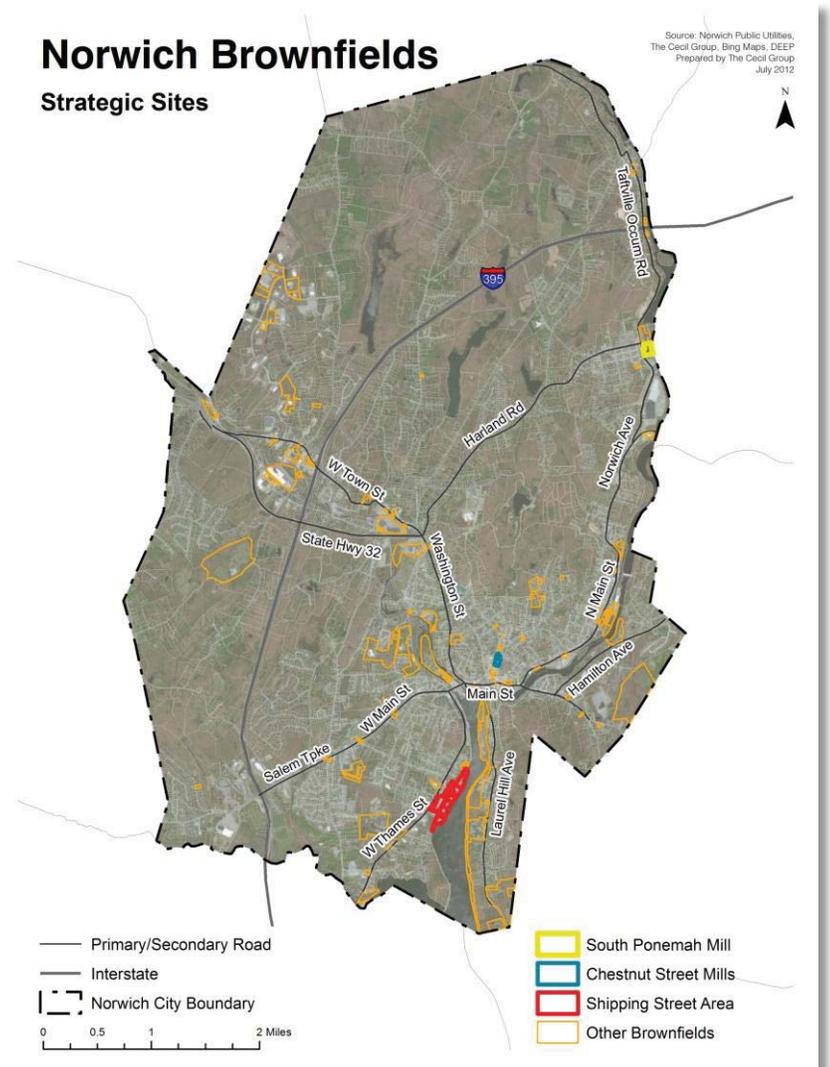
# Report Outline

---

- Introduction
  - Study Overview
  - Brownfields Overview
  - Process
  
- Brownfields Analysis
  - Prioritization Process
  
- Strategic Brownfield Sites
  
- Brownfield Reuse Scenarios
  - Reuse Scenarios for 3 Strategic Sites
  - Assessment and Remediation Needs
  - Infrastructure Improvements
  
- Action Plan
  - Schedule – Prioritization of Sites and Funding
  - Application to Other Sites

# Strategic Brownfield Sites

- South Mill of Ponemah Mills
- Chestnut Street Mills
- Shipping Street Area
  - Focus on WISP Properties Example



# Ponemah Mills

- Existing Site



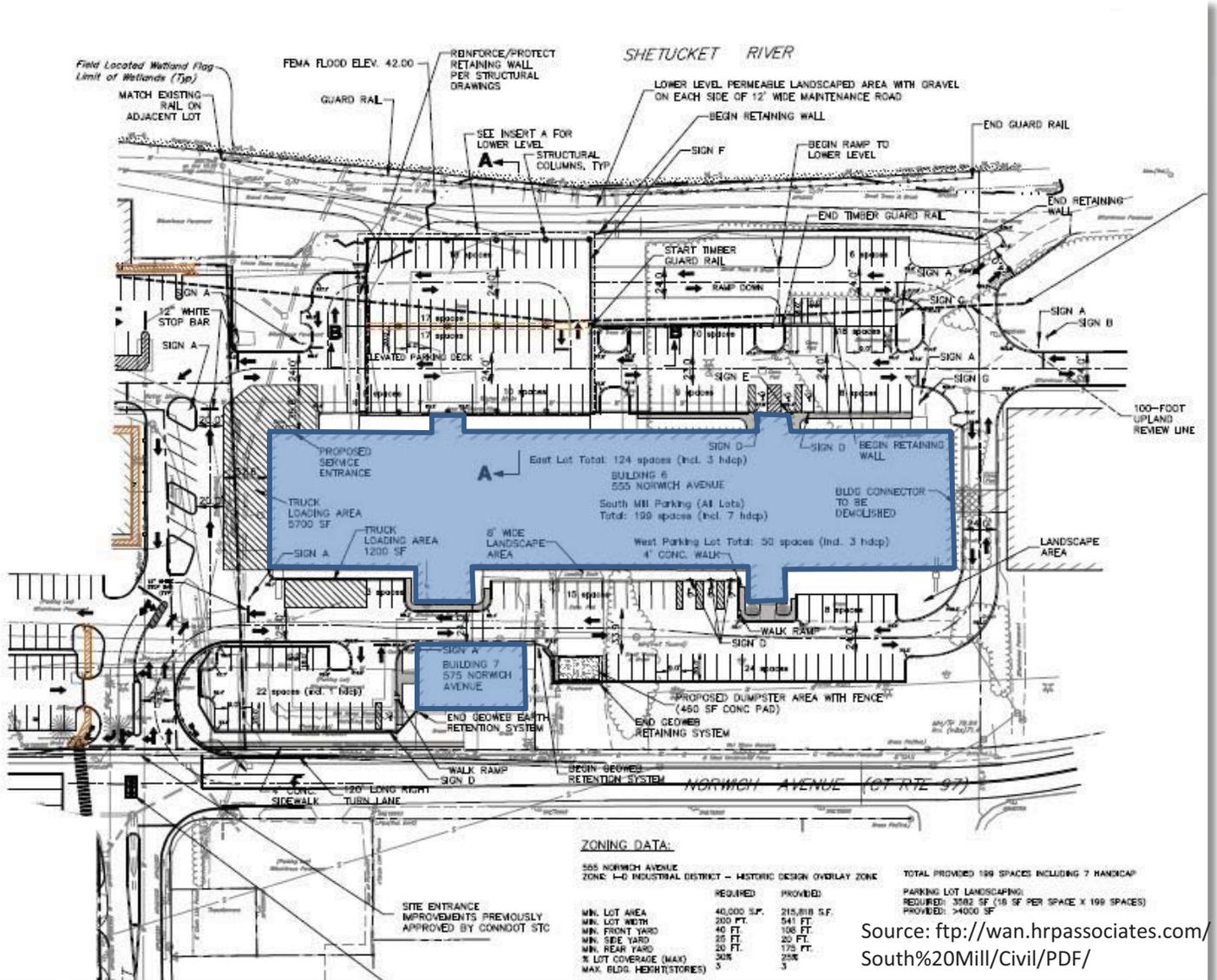
# Ponemah Mills (South Mill)

- Reuse Scenario

- Mixed Use

*Residential – 115 two-bedroom units*

*Commercial – bulk and specialty retail, services, light industrial and large activity spaces*



# Ponemah Mills (South Mill)

---

## ■ Assessment Recommendations

- Phase 1, 2 and 3 ESA
- Hazardous Building Materials Surveys
- Remedial Action Plan

Conceptual Cost Range: \$108,000-\$143,000

## ■ Potential Remedial Scenarios

- Soil Remediation
- Groundwater Monitoring
- ELUR and Maintenance of Caps
- Hazardous Building Materials Abatement

Conceptual Cost Range: \$780,000-\$1.2 million

*Total Estimated Conceptual Cost Range:  
\$900,000-\$1.35 million*

# Ponemah Mills (South Mill)

---

- Infrastructure Needs
  - Included in Proposed Reuse Project
- Estimated Increase in Property Taxes
  - \$206,263



# Chestnut Street Mills

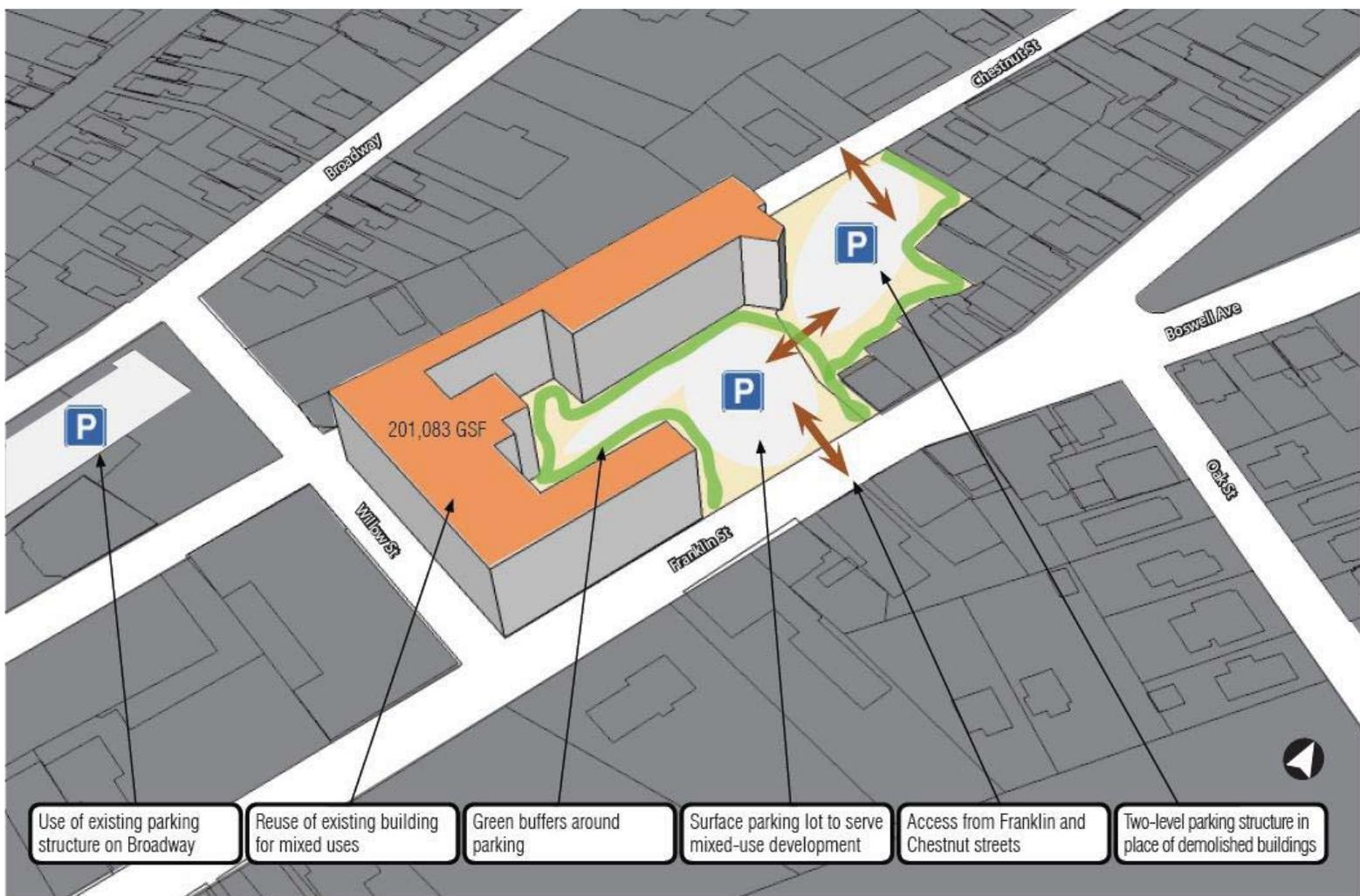
- Existing Conditions



# Chestnut Street Mills

## ■ Reuse Scenario

- 132-176 Franklin Street – Mixed Use
  - Residential – 58 two-bedroom units*
  - Commercial – retail and office*
- 77 Chestnut Street – Demolition and parking



# Chestnut Street Mills

---

## ■ Assessment Recommendations

- Phase 1, 2 and 3 ESA
- Hazardous Building Materials Surveys
- Remedial Action Plan

Conceptual Cost Range: \$105,000-\$140,000

## ■ Potential Remedial Scenarios

- Soil Remediation
- Groundwater Monitoring
- ELUR and Maintenance of Caps
- Hazardous Building Materials Abatement

Conceptual Cost Range: \$680,000-\$1 million

*Total Estimated Conceptual Cost Range:  
\$785,000-\$1.14 million*

# Chestnut Street Mills

- Infrastructure Needs
  - Parking – on and off-site
  - Access – Chestnut and Franklin streets
  - Existing Utilities
- Estimated Increase in Property Taxes
  - \$165,779



# Shipping Street Area

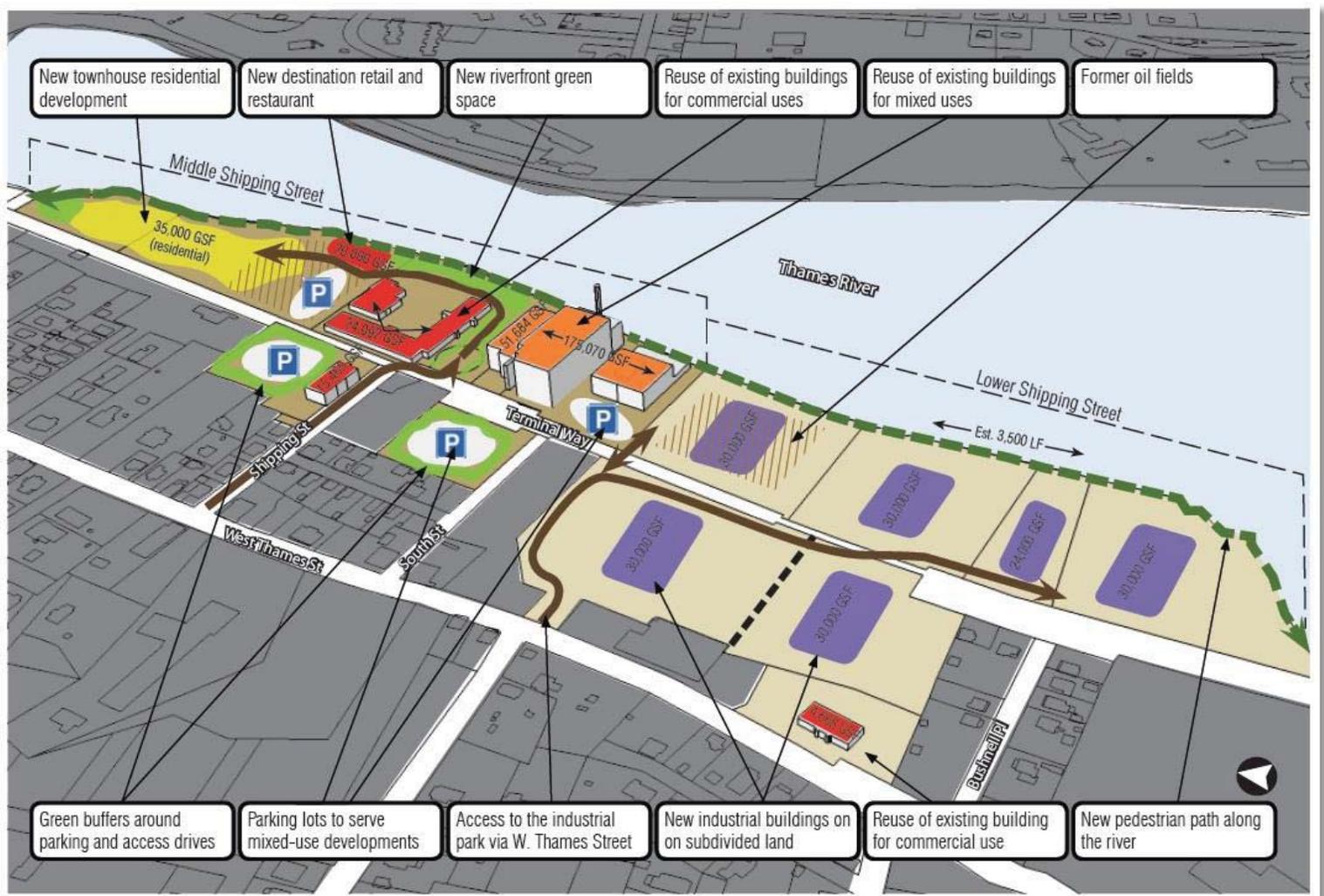
- Existing Site
  - WISP Partners Properties in Orange
  - Remainder Under Consideration in Red



# Shipping Street Area

## ■ Reuse Scenario

- Lower Properties – Industrial  
*Subdivision and new construction*
- Middle Properties – Mixed Use  
*Residential – 77 two-bed units, 25 townhouse units*  
*Commercial – retail and restaurant*
- Public walkway and open space



# Shipping Street (WISP Subarea)

---

## ■ Assessment Recommendations

- Phase 1, 2 and 3 ESA
- Hazardous Building Materials Surveys
- Remedial Action Plan

Conceptual Cost Range: \$170,000-\$207,000

## ■ Potential Remedial Scenarios

- Soil Remediation
- Groundwater Monitoring
- ELUR and Maintenance of Caps
- Hazardous Building Materials Abatement

Conceptual Cost Range: \$1.7-\$3.2 million

*Total Estimated Conceptual Cost Range:  
\$1.9 - \$3.4 million*

# Shipping Street Area

- Infrastructure Needs
  - Main Access Road off West Thames Street  
**Estimate: \$375,000**
  - Access Drive connected to Shipping Street  
**Estimate: \$200,000**
  - Parking
  - All Utilities
- Estimated Increase in Property Taxes
  - **\$356,233**



# Action Plan

---

- **Prioritization of Sites**
  1. Chestnut / Franklin Street Mills
  2. Shipping Street Area
  3. Ponemah Mills (support ongoing)
  
- **Funding**
  1. DECD Brownfields Regional Grant – Assessment and Remediation

*And*

  1. EPA Brownfields Assessment Grant – Assessment
  2. EPA Brownfields Cleanup Grant – Remediation

# Action Plan

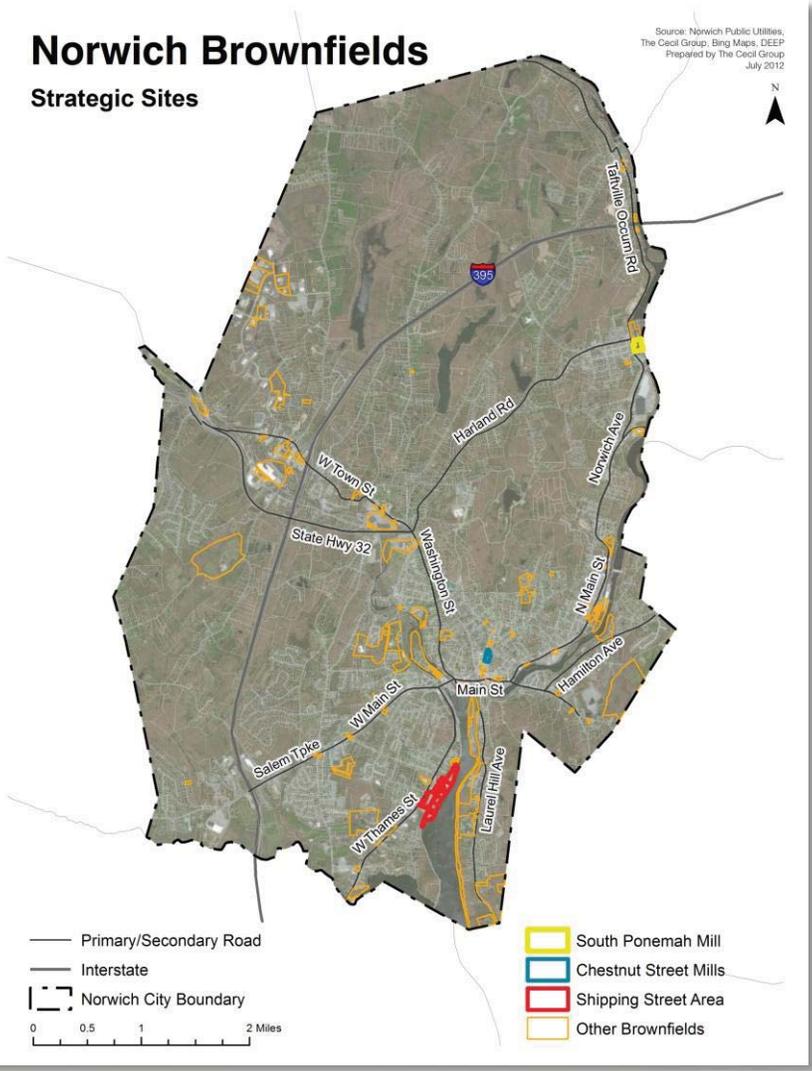
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- Application to Other Sites
  - Ponemah Mills South Mill – reuse of existing building
  - Chestnut Street Mills – demolition of a building to support the reuse of another building
  - Shipping Street Area – reuse of buildings combined with land clearance and new construction, phasing of redevelopment



# Discussion

- Questions





# NORWICH

**Area-Wide Brownfields Study**

August 27, 2012  
The Cecil Group  
Tighe & Bond

## **Appendix: B**

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### Property Sheets

# Trinacria Mill

556 East Main Street  
Norwich, CT 06360

## Property Description

This property is a former textile mill building that is currently vacant. The building is across the street from Thames River Academy, an alternative high school.

**Owner:** SRS Holding LLC

**Land Area:** 0.85 acres

**Assessed Value:** \$221,000

**Appraised Value:** \$315,000

**Zoning:** Multifamily Residence District

**Access:** East Main Street/Route 2 (principal arterial) and Stanton Avenue (local road)

- Two-lane roads

**Public Transit:** Southeast Area Transit District provides bus service (Run 7) north of the property on East Main Street and Hamilton Avenue

## Building Data

**Number of Buildings:** 2

**Total Square Footage:** 38,216 gross SF

**Stories:** 3 and 2

**Year Built:** 1880

**Condition:** C- and D+

## Environmental Conditions

**Site Status:** Abandoned. No known investigations have been conducted.

**ELUR:** No

**UST:** No underground storage tanks on file with DEEP or municipality



---

# Trinacria Mill

556 East Main Street  
Norwich, CT 06360

## Issues and Opportunities

- Building is in poor condition
- Residential neighborhood and nearby school could conflict with commercial or industrial reuse options
- Site has frontage on two streets
- Site is small and constrained by neighboring properties

## Community Context

**Neighborhood:** East Side

**Area Uses:** Multifamily housing, Thames River Academy across the street

**Adjacent Brownfields:** None

**Natural/Water Features:** None

**Historic Designation:** None

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## Potential Resources

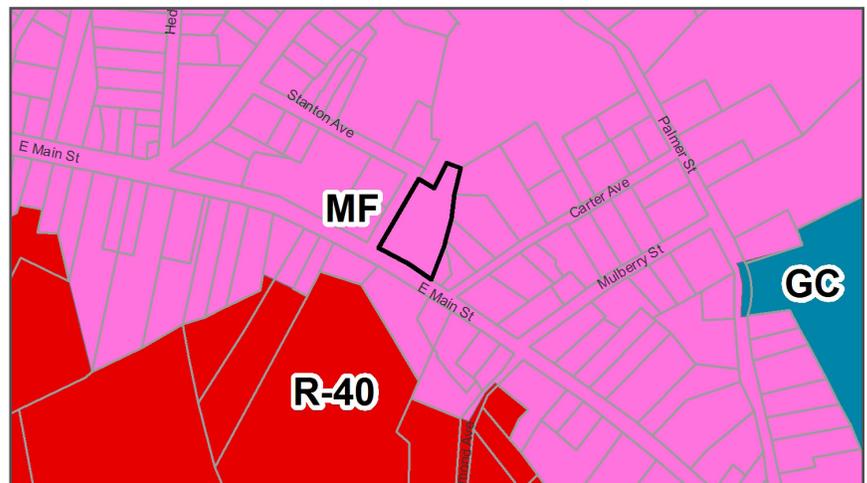
- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- EPA Brownfields Assessment
- EPA Targeted Brownfields Assessment Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund

## Next Steps

1. Assessment

This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.

## Zoning Map



# Shipping Street Area

55, 60 and 67 Terminal Way and  
340 West Thames Street  
Norwich, CT 06360

## Property Description

These four properties are part of what is known as the Shipping Street Area, a former industrial area that now largely consists of vacant buildings. Dahl Oil Company and later Uncas Paper Company used to occupy several of the buildings. WISP Partners owns the four properties, which are bisected by rail lines. (It also owns a fifth property on West Thames Street, outlined with a dashed line in the map.) There are many other brownfields in the Shipping Street area - shown in orange in the map - including one owned by the City.

**Owner:** WISP Partners

**Land Area:** 11.37 acres

**Assessed Value:** \$1,062,000

**Appraised Value:** \$1,515,000

**Zoning:** Waterfront Development

**Access:** West Thames Street/Route 32 (minor arterial), Terminal Way (local road)

- Two-lane road (West Thames Street/Route 32) leads to I-395 to the south
- Narrow road (Terminal Way)

**Public Transit:** Southeast Area Transit District provides bus service (Run 7) on West Thames Street

## Building Data

**Number of Buildings:** 4

**Total Square Footage:** 94,379 gross SF

**Stories:** 2 (55 Terminal Way), 1 (others)

**Year Built:** 1890-1935

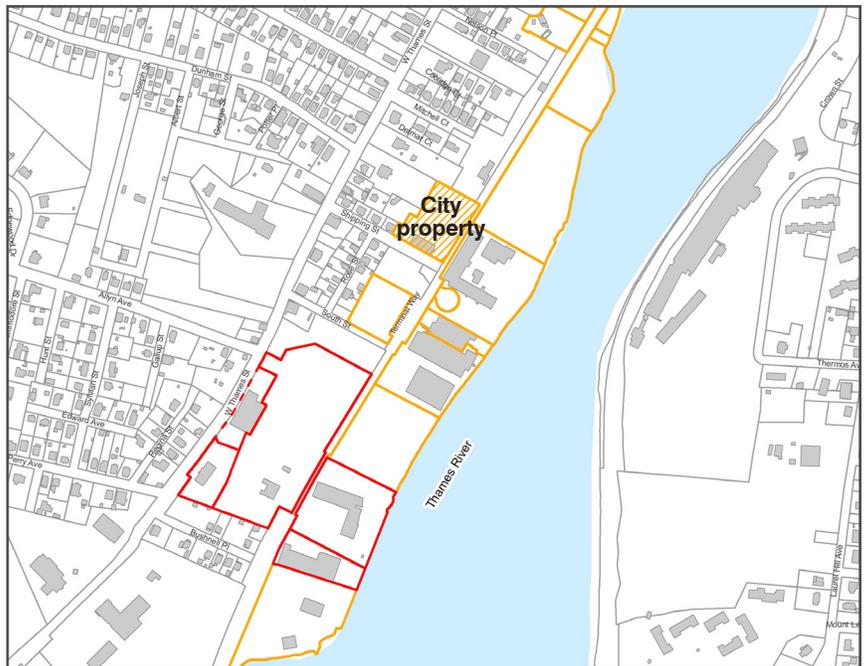
**Condition:** C to D-

## Environmental Conditions

**Site Status:** Investigations started. Free petroleum product removal from groundwater monitoring wells is ongoing. This property is in the DEEP Property Transfer Program.

**ELUR:** No

**UST:** Current and former aboveground, underground and leaking underground storage tanks



---

# Shipping Street Area

55, 60 and 67 Terminal Way and  
340 West Thames Street  
Norwich, CT 06360

## Issues and Opportunities

- Large amount of vacant land and buildings in the area could provide opportunities for significant redevelopment projects
- Waterfront sites provide views of and access to the Thames River
- Redevelopment of the area could be challenging if market is weak
- Active rail line runs between the properties
- Infrastructure improvements will likely be required to help facilitate redevelopment

## Community Context

**Neighborhood:** West Side

**Area Uses:** Largely vacant industrial buildings and land to the northeast and southwest (along the Thames River), housing to the west and south, commercial uses (auto-related) to the far south, housing to the north

**Adjacent Brownfields:** Properties along the Thames River and 40 West Thames Street adjacent to 60 Terminal Way (to the west)

**Natural/Water Features:** Thames River to the east, much of the properties are in the 100-year flood plain

**Historic Designation:** None

---

## Reuse Scenarios

Lower Properties – Industrial  
*Subdivision and new construction*

- Middle Properties – Mixed Use  
*Residential – 77 two-bed units, 25 townhouse units*  
*Commercial – Retail and restaurant*
- Public walkway and open space

## Potential Resources

- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- EPA Brownfields Assessment
- EPA Targeted Brownfields Assessment Program
- Brownfield Area-Wide Planning Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund

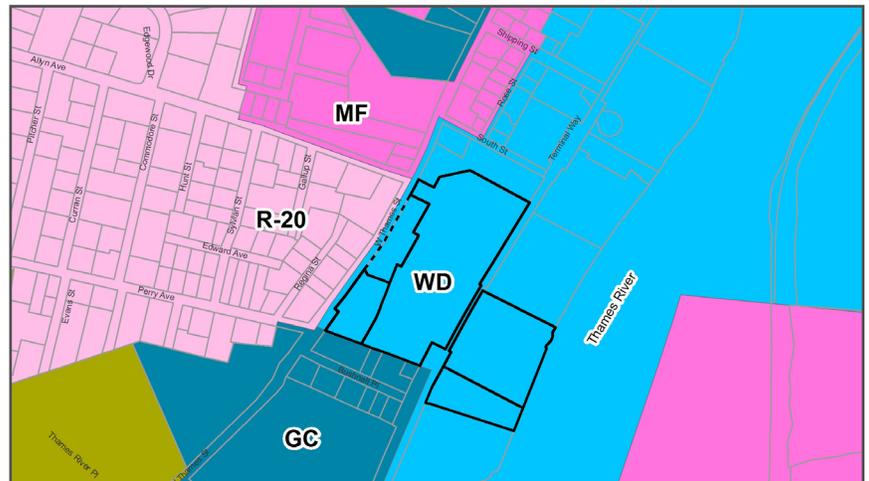
## Next Steps

1. Assessment

The property at 340 W. Thames Street has had some assessment and remediation activities completed. Additional assessment activities are needed to determine if additional remediation is required. The Terminal Way properties do not appear to have had any assessment activities conducted.

---

## Zoning Map





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# Ponemah Mills

555 and 607 Norwich Avenue  
Norwich, CT 06380

## Issues and Opportunities

- Sites are located on a major road that leads to I-395
- Buildings have high visibility
- Former mill buildings provide views of the Shetucket River
- Large scale of buildings could make reuse challenging if market is weak
- Approved plans for the site indicate owner/developer and City support for redevelopment (site plans available at <ftp://wan.hrpassociates.com>)

## Community Context

**Neighborhood:** Taftville-Occum

**Area Uses:** Commercial uses on Norwich Avenue, multifamily homes (old factory housing) to the east, condominium project under construction across the street on Norwich Avenue

**Adjacent Brownfields:** 575-599 Norwich Avenue between the two sites

**Natural/Water Features:** Located on the Shetucket River, a portion of the site (and potentially part of the North Mill) is in the 100-year flood plain

**Historic Designation:** Taftville (National Register Historic District)

---

## Reuse Scenarios

- Mixed Use  
*Residential – 115 two-bedroom units*  
*Commercial – bulk and specialty retail, services, light industrial and large activity spaces*

## Potential Resources

- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- EPA Brownfields Assessment
- EPA Targeted Brownfields Assessment Program
- Brownfield Area-Wide Planning Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund

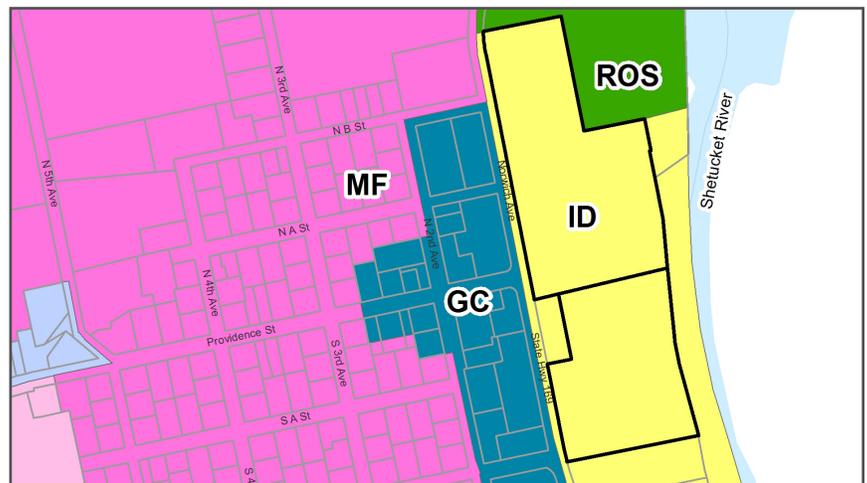
## Next Steps

1. Assessment

555 Norwich Ave. - This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.

---

## Zoning Map



# North Main Street

687-725 and 751 North Main Street  
Norwich, CT 06360

## Property Description

These two properties are currently vacant and bordered to the east by an active rail line and the Shetucket River. A building on the northern parcel - the Hidden Valley Club at 751 North Main Street - was demolished after a fire in the late 2000s. Construction debris cover the site, which has been abandoned. Back taxes are owned on the property. The southern property is wooded.

**Owner:** Christian Community Outreach Center LLC (751 North Main) and Joanne Wilk (687-725 North Main)

**Land Area:** 5.2 acres

**Assessed Value:** \$180,000

**Appraised Value:** \$256,000

**Zoning:** Multifamily and General Commercial

**Access:** North Main Street/Route 12 (minor arterial)

- Two-lane road
- Gated steep driveway to 751 North Main St

**Public Transit:** Southeast Area Transit District provides bus service (Run 4) on North Main Street

## Building Data

**Number of Buildings:** 0

**Total Square Footage:** 0

**Stories:** NA

**Year Built:** NA

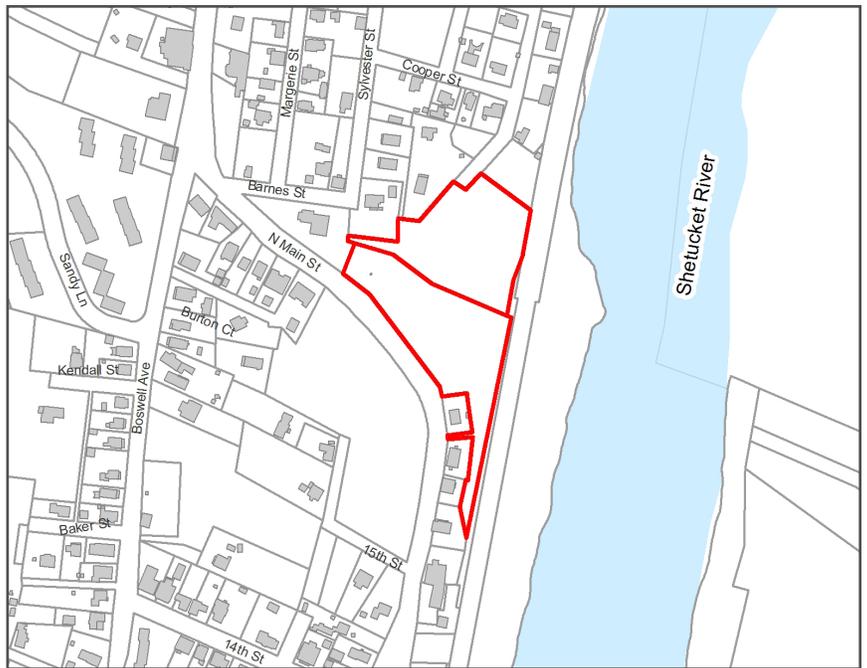
**Condition:** NA

## Environmental Conditions

**Site Status:** Hazardous Waste Disposal Site (751 North Main St). Some investigations have been conducted by Atlantic. The property at 687-725 North Main Street has been identified as a former metal salvage operation. No known investigations have been identified.

**ELUR:** No

**UST:** None reported, but petroleum releases identified



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# North Main Street

687-725 and 751 North Main Street  
Norwich, CT 06360

## Issues and Opportunities

- Vacant site provide flexibility in future potential uses
- Access to 751 North Main Street is via a narrow driveway with a steep downward slope
- Residential neighborhoods could conflict with some commercial or industrial reuse options
- Tax delinquency on 751 North Main Street provides opportunity for City to foreclose and take ownership, though potential contamination could be a deterrent
- Shetucket River could be an amenity

## Community Context

**Neighborhood:** Greenville

**Area Uses:** Multifamily homes to the north and west, commercial uses (including Old Mill Tavern) along North Main Street, City-owned land between the rail line and Shetucket River

**Adjacent Brownfields:** None

**Natural/Water Features:** Located near the Shetucket River, 751 North Main Street is in the 100-year flood plain

**Historic Designation:** None

---

## Potential Resources

- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- EPA Brownfields Assessment
- EPA Targeted Brownfields Assessment Program
- Brownfield Area-Wide Planning Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund

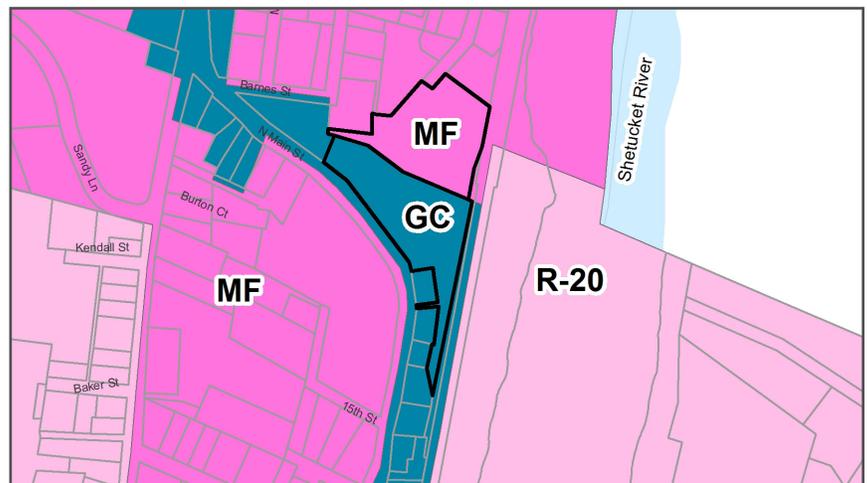
## Next Steps

1. Assessment

751 North Main Street - This property is privately owned and has had some assessment activities and remediation. Additional assessment activities are needed to determine if additional remediation is required.

687-725 North Main Street - This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.

## Zoning Map



# Hollyhock Island

Falls Avenue  
Norwich, CT 06360

## Property Description

Owned by the City of Norwich, this property is the northern portion of Hollyhock Island, which is located in the middle of the Yantic River. The property was once the City's landfill and now includes the City's Wastewater Treatment Plant (southern part of the property). A small portion is used for boat storage.

**Owner:** City of Norwich

**Land Area:** 16 acres

**Assessed Value:** \$489,000

**Appraised Value:** \$699,000

**Zoning:** Recreation Open Space

**Access:** Falls Avenue (local road)

- Narrow road

**Public Transit:** None

## Building Data

**Number of Buildings:** NA

**Total Square Footage:** NA

**Stories:** NA

**Year Built:** NA

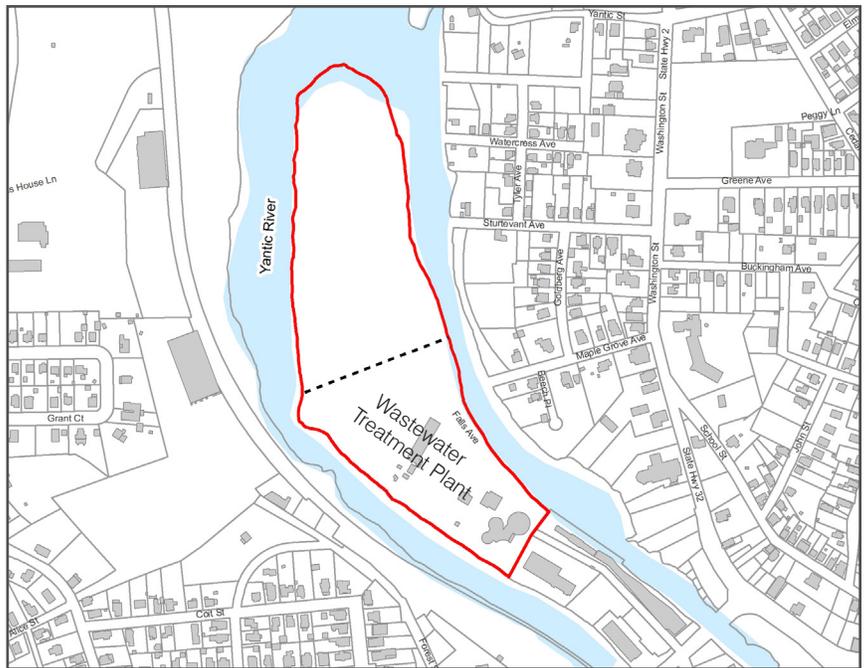
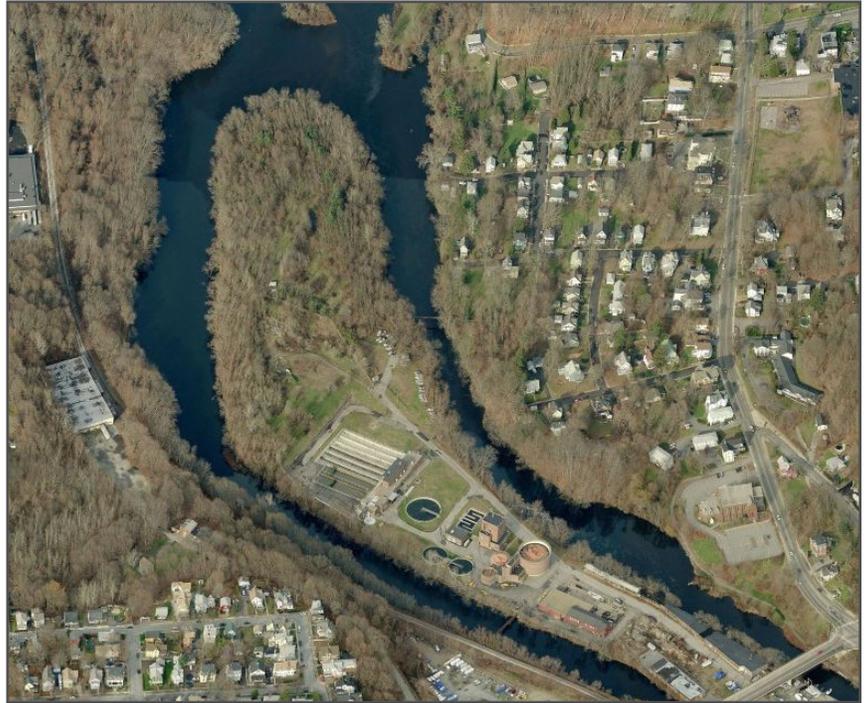
**Condition:** NA

## Environmental Conditions

**Site Status:** Hazardous Waste Disposal Site. This property was a landfill from 1930s to 1970 that received municipal and industrial waste. Some investigations have been conducted.

**ELUR:** No

**UST:** Current and former underground storage tanks



---

# Hollyhock Island

Falls Avenue  
Norwich, CT 06360

## Issues and Opportunities

- Site could be linked to the Heritage Riverfront Walkway via a pedestrian bridge over the Yantic River's east channel
- Location in the Yantic River provides opportunities for potential recreational uses and access to the water
- City of Norwich has control over future uses due to its ownership of the land

## Community Context

**Neighborhood:** Adjacent to Downtown

**Area Uses:** Warehouses and the Transportation Center to the south

**Adjacent Brownfields:** 17-35 Falls Avenue to the southwest, 18 and 28 Falls Avenue further southwest (not adjacent)

**Natural/Water Features:** Surrounded on three sides by the Yantic River, much of the property is in the 100-year flood plain

**Historic Designation:** None

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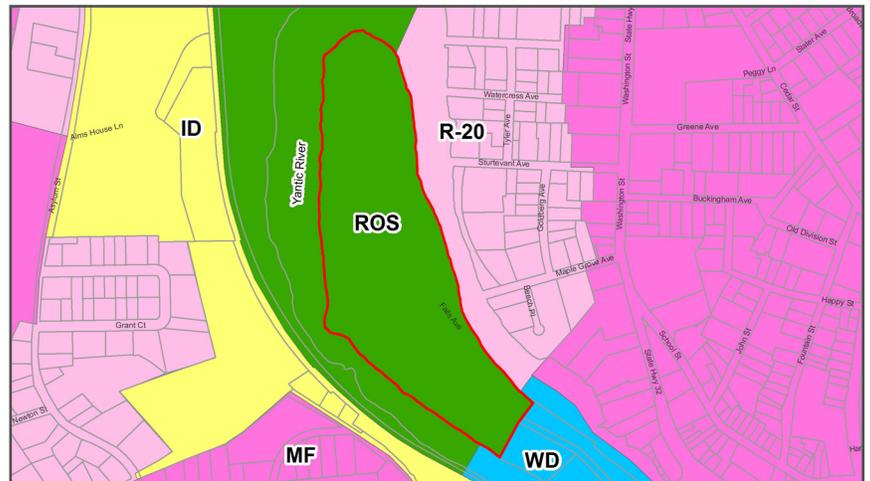
## Potential Resources

- Not eligible for funding since the City has owned the site since 1874 and would therefore be considered a responsible party for contamination

## Next Steps

1. Additional Assessment

## Zoning Map



# Former Buckingham Elementary School

188 Cedar St.  
Norwich, CT 06360

## Property Description

This property was home to the former Buckingham Elementary School. The building, which last served as an adult education facility, was demolished in early 2012. It is now vacant land with parking lots.

**Owner:** City of Norwich

**Land Area:** 6.28 acres

**Assessed Value:** \$2,715,000

**Appraised Value:** \$3,879,000

**Zoning:** Multifamily Residence District

**Access:** Washington Street/Route 2 (principal arterial) and Cedar Street (local road)

- Both two-lane roads
- Route 2 leads to I-395 to the north and downtown Norwich to the south

**Public Transit:** Southeast Area Transit District provides bus service (Run 5) nearby on Broadway/Union streets

## Building Data

**Number of Buildings:** 0

**Total Square Footage:** 0

**Stories:** 0

**Year Built:** NA

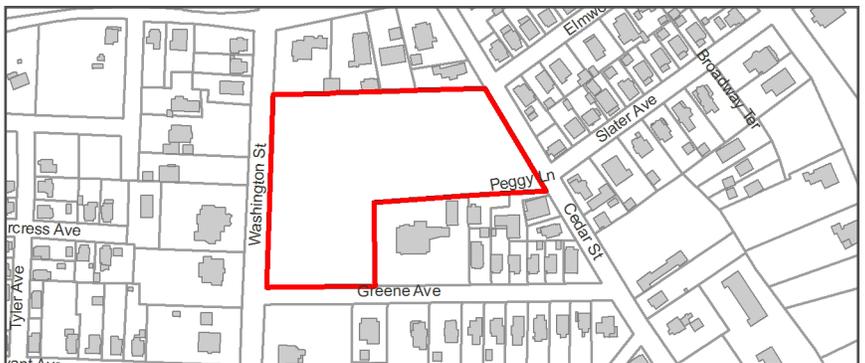
**Condition:** NA

## Environmental Conditions

**Site Status:** Unknown status of 6,000-gallon heating oil underground storage tank. Soil contamination identified from former 10,000-gallon heating oil underground storage tank. Status of former transformer vault or PCB content unknown.

**ELUR:** No

**UST:** Former leaking underground storage tank, current underground storage tank



---

# Former Buckingham Elementary School

188 Cedar St.  
Norwich, CT 06360

## Issues and Opportunities

- Vacant land provides flexibility in potential future uses and site configurations
- City ownership of site provides control over its future reuse
- Residential neighborhood could conflict with commercial or industrial reuse options
- Significant additional traffic would not be appropriate for Cedar Street

## Community Context

**Neighborhood:** Downtown

**Area Uses:** Residential uses (multifamily) surround the site

**Adjacent Brownfields:** None

**Natural/Water Features:** Within walking distance to the Yantic River

**Historic Designation:** Chelsea Parade (National Register Historic District)

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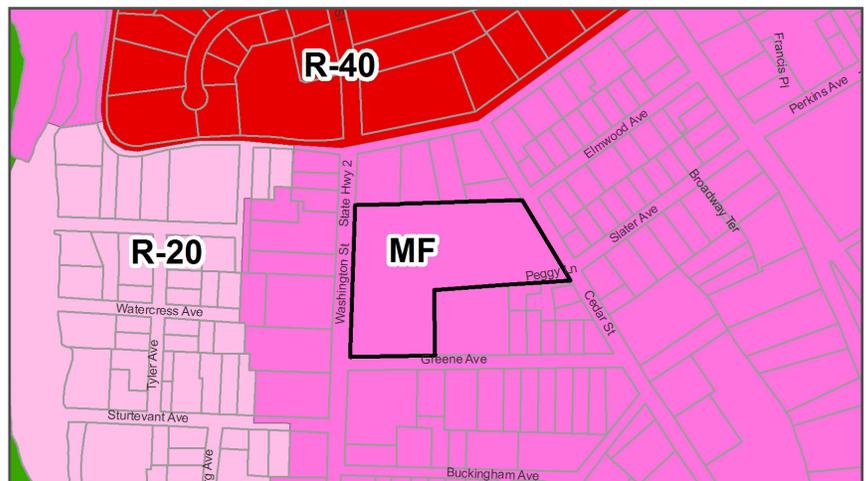
## Potential Resources

- Not eligible for funding since the City has owned the site since 1953 and would therefore be considered a responsible party for contamination

## Next Steps

1. Assessment

## Zoning Map



# Chestnut Street Mills

77 Chestnut Street and 132-176  
Franklin Street  
Norwich, CT 06360

## Property Description

These two properties are former mills that used to be occupied by Hopkins & Allen Firearms Company and later by J.B. Martin Velvet Company. Now vacant and abandoned, the buildings are in downtown Norwich near City Hall. The northern building - 77 Chestnut Street - is owned by the City and is expected to be demolished. The southern property is privately owned.

**Owner:** City of Norwich (77 Chestnut St),  
Franklin St LLC (132-176 Franklin St)

**Land Area:** 2.53 acres

**Assessed Value:** \$563,000

**Appraised Value:** \$804,000

**Zoning:** Chelsea Central

**Access:** Chestnut Street (local road), Franklin  
Street (major collector), Willow Street (local road)

- Two-lane road (Chestnut St)
- One-way roads (Franklin St and Willow St)

**Public Transit:** Southeast Area Transit District  
provides bus service (Run 5 and 9) on Franklin  
Street

## Building Data

**Number of Buildings:** 3

**Total Square Footage:** 266,846 gross SF

**Stories:** 3 and 2 (77 Chestnut St), 5 (132-176  
Franklin Street)

**Year Built:** 1895 and 1900 (77 Chestnut St),  
1905 (132-176 Franklin St)

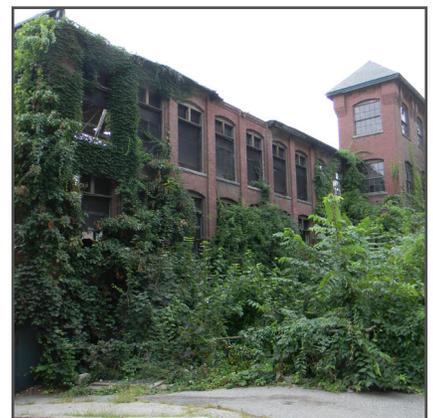
**Condition:** D+

## Environmental Conditions

**Site Status:** Abandoned. No investigations known.

**ELUR:** No

**UST:** None registered, but a site plan for  
132 Franklin Street shows underground and  
aboveground storage tanks, and a DEEP memo  
for 77 Chestnut Street states an oil overfill incident



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# Chestnut Street Mills

77 Chestnut Street and 132-176  
Franklin Street  
Norwich, CT 06360

## Issues and Opportunities

- Buildings are in poor condition, with 77 Chestnut Street slated for demolition
- Access is largely limited to local roads
- Sites are centrally located in downtown Norwich and are near City Hall
- Neighborhood is very walkable
- Several planning and redevelopment efforts are focused on revitalizing downtown Norwich

## Community Context

**Neighborhood:** Downtown

**Area Uses:** Residential (Artspace Norwich and other housing), commercial, mixed-use, civic (Town Hall) and cultural (Spirit of Broadway) uses

**Adjacent Brownfields:** No (several brownfields in the area such as 24 and 103 Chestnut Street, 30-66 Franklin Street, and 282 Franklin Street)

**Natural/Water Features:** Portion of the properties are in the 100-year flood plain

**Historic Designation:** None

---

## Reuse Scenarios

- 132-176 Franklin Street – Mixed Use  
*Residential – 58 two-bedroom units*  
*Commercial – Retail and office*
- 77 Chestnut Street – Demolition and parking

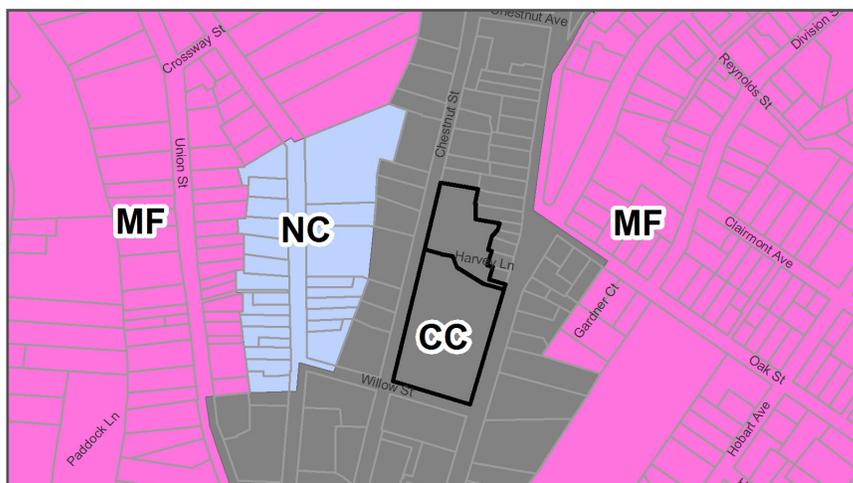
## Potential Resources

- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- EPA Brownfields Assessment
- EPA Targeted Brownfields Assessment Program
- Brownfield Area-Wide Planning Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund

## Next Steps

1. Assessment of 77 Chestnut St
2. Remediation and Demolition of 77 Chestnut St

## Zoning Map



# Capehart Mill

Fifth Street End of Canal  
Norwich, CT 06360

## Property Description

This property is the former Capehart Mill, which has been closed since the early 1980s. The complex on the Shetucket River suffered a fire roughly two years ago, leaving it in extremely poor condition. A canal runs between two buildings on the property.

**Owner:** Foot of Fifth Inc.

**Land Area:** 6.05 acres

**Assessed Value:** \$16,000

**Appraised Value:** \$23,000

**Zoning:** General Commercial

**Access:** Fifth Street (local road)

- Narrow two-lane road off of North Main Street

**Public Transit:** Southeast Area Transit District provides bus service (Run 4) nearby on Central Avenue

## Building Data

**Number of Buildings:** 2

**Total Square Footage:** 345,193 gross SF

**Stories:** 3 (eastern building), 5 (western building)

**Year Built:** 1904-1905

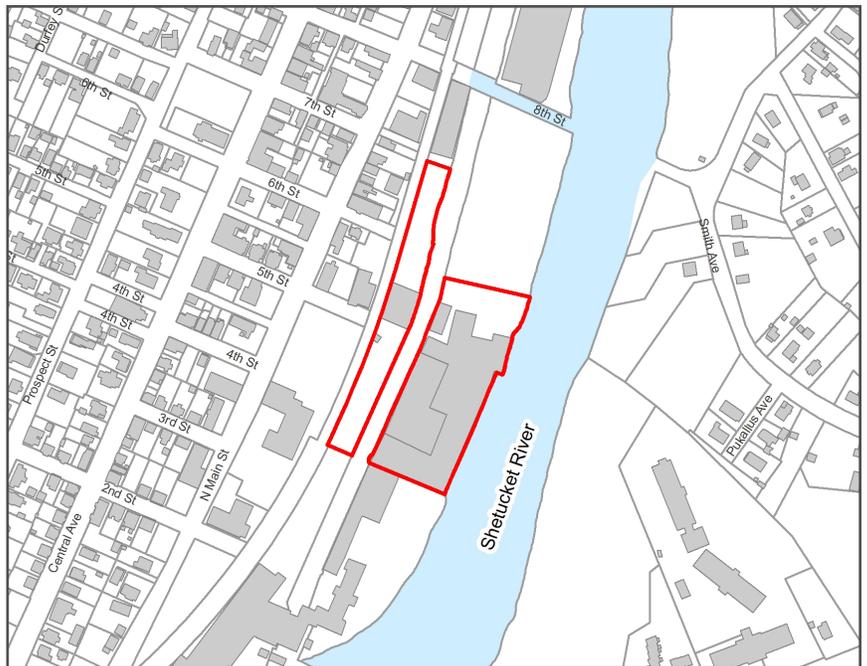
**Condition:** D+ (eastern building), C (western building)

## Environmental Conditions

**Site Status:** Remedial Action Plan prepared by GEI in January 2001 that calls for rendering soils environmentally isolated and inaccessible with an ELUR. Three potential scenarios prepared.

**ELUR:** Needed

**UST:** Current and former underground storage tanks in three separate areas



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# Capehart Mill

Fifth Street End of Canal  
Norwich, CT 06360

## Issues and Opportunities

- Buildings are in extremely poor condition and are likely teardowns
- Access is limited to a narrow road off of North Main Street
- Site provides access to and views of the Shetucket River
- Adjacency to other brownfields could provide opportunities for larger-scale redevelopment
- Rail line runs west of the property

## Community Context

**Neighborhood:** Greenville

**Area Uses:** Commercial and industrial uses to the south and west, a parking lot to the north

**Adjacent Brownfields:** 6 Eighth Street to the north (parking lot), 387 North Main Street to the south (Atlantic Packaging), several auto-related uses to the west (including former Simon Ford)

**Natural/Water Features:** Located on the Shetucket River

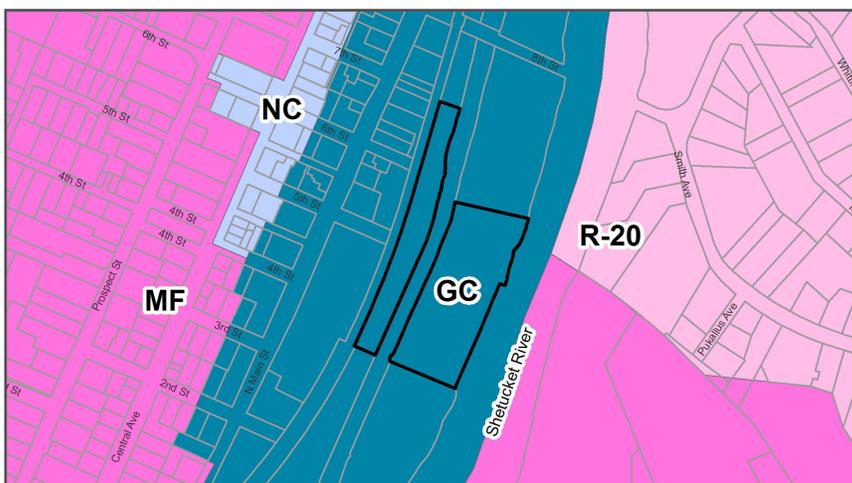
**Historic Designation:** None

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## Potential Resources

- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- Brownfield Area-Wide Planning Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund
- State-Wide Revolving Loan Fund
- Brownfield Tax Incentive Program
- EPA Revolving Loan Fund

## Zoning Map



## Next Steps

1. Remediation

This property has been assessed and a Remedial Action Plan has been prepared. This property appears eligible for cleanup funding.

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# American Legion

457 Laurel Hill Avenue  
Norwich, CT 06360

## Property Description

This property is home to the American Legion Post 4. Largely wooded and undeveloped, the site slopes down toward the Thames River. There are recreational uses on the site, including horseshoe pits behind the American Legion building.

**Owner:** Robert Fletcher

**Land Area:** 13.8 acres

**Assessed Value:** \$977,000

**Appraised Value:** \$1,394,000

**Zoning:** Multifamily Residence District

**Access:** Laurel Hill Avenue/Route 12 (principal arterial)

- Two-lane road

**Public Transit:** Southeast Area Transit District provides bus service (Run 2) on Laurel Hill Avenue

## Building Data

**Number of Buildings:** 1 (plus outbuildings)

**Total Square Footage:** 1,360 gross SF

**Stories:** 1

**Year Built:** 1961

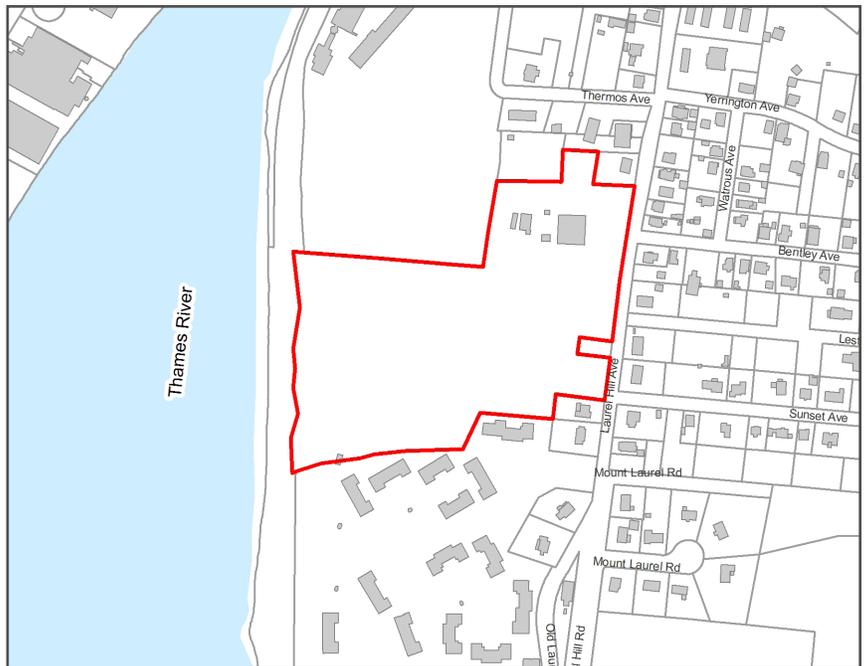
**Condition:** C

## Environmental Conditions

**Site Status:** This property was reportedly used as a cullet glass disposal site for the nearby Thermos on the Thames manufacturing facility. No known environmental investigations have been conducted for this property.

**ELUR:** No

**UST:** None on file with DEEP or municipality



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# American Legion

457 Laurel Hill Avenue  
Norwich, CT 06360

## Issues and Opportunities

- Site is large and has significant frontage on Laurel Hill Avenue
- Residential neighborhoods in the area could conflict with commercial or industrial reuse options
- Site provides views of the Thames River
- Site is largely undeveloped (wooded)

## Community Context

**Neighborhood:** East Side

**Area Uses:** Multifamily housing (Thamesview Apartments) to the south, housing to the east and north, commercial uses (including an auto body shop) and a charter school to the north

**Adjacent Brownfields:** 495 Laurel Hill Road (Thamesview Apartments) to the south and 68 Thermos Avenue to the north

**Natural/Water Features:** Thames River to the west

**Historic Designation:** None

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## Potential Resources

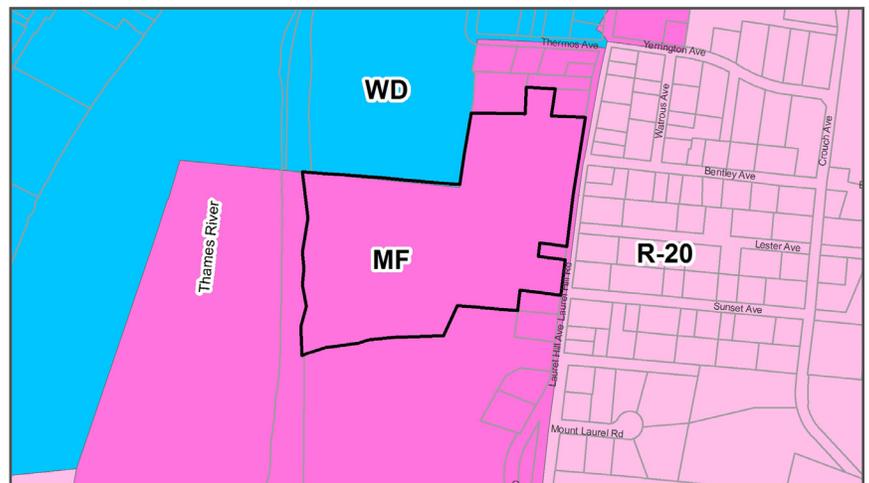
- Urban Sites Remedial Action Program
- Brownfield Municipal Grant Program
- EPA Brownfields Assessment
- EPA Targeted Brownfields Assessment Program
- Target Brownfield Development Loan Program
- Special Contaminated Property Remediation and Insurance Fund

## Next Steps

1. Assessment

This property does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.

## Zoning Map



## **Appendix: C**

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### Brownfield Funding Sources

## Norwich Brownfields Program Potential Funding Source Table

Target Brownfields Sites					Grants						Loans				Comments			
					State		Federal				State			Federal				
Name	Address	Owner/Responsible Party	Type of Contamination	Activity	Urban Sites Remedial Action Program <sup>1</sup>	Brownfield Municipal Grant Program <sup>2</sup>	EPA Brownfields Assessment <sup>3</sup>	EPA Brownfields Cleanup <sup>3 &amp; 4</sup>	EPA Targeted Brownfields Assessment Program <sup>5</sup>	Brownfield Area-Wide Planning Program <sup>6</sup>	Target Brownfield Development Loan Program <sup>7</sup>	Tax Increment Financing <sup>8</sup>	SCPRI <sup>9</sup>	State-Wide Revolving Loan Fund <sup>10</sup>		Brownfield Tax Incentive Program <sup>11</sup>	EPA Revolving Loan Fund <sup>12</sup>	
A = Assessment C = Cleanup R = Redevelopment					A, C, R	A, C	A	C	A	Planning only	A, C	C, R	A, C	C		C, R	C	
American Legion	457 Laurel Hill	Robert Fletcher / Thermos on the Thames	Hazardous Substance		x	x	x		x		x		x				This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.	
Capehart Mill	Fith Street End of Canal	Foot of Fifth, Inc / Capehart - Greenville Industries	Hazardous Substance and Petroleum		x	x					x	x	x	x	x	x	x	This property has been assessed and a RAP has been prepared. This property appears eligible for cleanup funding.
Chestnut Street Mills	77 Chestnut Street	City of Norwich	Unknown		x	x	x	x	x	x	x	x		x				This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
	132 Franklin Street	Franklin Street LLC / Rose City Dyeing & Finishing - Norwich Textiles	Hazardous Substance		x	x	x			x	x	x		x				This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
Former Buckingham Elementary School	188 Cedar Street	City of Norwich / City of Norwich	Petroleum															This property would not be eligible for any funding since it has been owned by the City since 1953 and therefore City would be considered responsible party for contamination.
Hollyhock Island	Falls Avenue	City of Norwich / City of Norwich	Hazardous Substance and Petroleum															This property would not be eligible for any funding since it has been owned by the City since 1874 and therefore City would be considered responsible party for contamination.

## Norwich Brownfields Program Potential Funding Source Table

Target Brownfields Sites					Grants						Loans				Comments			
					State		Federal				State			Federal				
Name	Address	Owner/Responsible Party	Type of Contamination	Activity	Urban Sites Remedial Action Program <sup>1</sup>	Brownfield Municipal Grant Program <sup>2</sup>	EPA Brownfields Assessment <sup>3</sup>	EPA Brownfields Cleanup <sup>3 &amp; 4</sup>	EPA Targeted Brownfields Assessment Program <sup>5</sup>	Brownfield Area-Wide Planning Program <sup>6</sup>	Target Brownfield Development Loan Program <sup>7</sup>	Tax Increment Financing <sup>8</sup>	SCRIF <sup>9</sup>	State-Wide Revolving Loan Fund <sup>10</sup>		Brownfield Tax Incentive Program <sup>11</sup>	EPA Revolving Loan Fund <sup>12</sup>	
					A, C, R	A, C	A	C	A	Planning only	A, C	C, R	A, C	C		C, R	C	
North Main Street	751 North Main	Christian Community Outreach Center, LLC / Chambers Storck - Armotek Industries	Hazardous Substance		x	x	x		x	x	x		x				This property is privately owned and has had some assessment activities and remediation. Additional assessment activities are needed to determine if additional remediation is required.	
	725 North Main	Joanne M. Wilk & Patricia Benjamin	Unknown		x	x	x		x	x	x		x					This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
	687 North Main	Joanne M. Wilk & Patricia Benjamin	Unknown		x	x	x		x	x	x		x					This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
Ponemah Mills	555 Norwich Avenue	555 South Mill, LLC	Unknown		x	x	x		x	x	x		x					This property is privately owned and does not appear to have had any assessment activities conducted. This property would not be eligible for cleanup funds until assessment has been completed.
	607 Norwich Avenue	Ponemah Riverbank, LLC / Helikon Furniture Company	Hazardous Substance and Petroleum	x	x	x		x	x	x		x					This property has had some assessment and remediation including implementation of an ELUR. Additional assessment activities are needed to determine if additional remediation is required.	

## Norwich Brownfields Program Potential Funding Source Table

Target Brownfields Sites				Grants						Loans						Comments	
				State		Federal				State			Federal				
Name	Address	Owner/Responsible Party	Type of Contamination	Activity	Urban Sites Remedial Action Program <sup>1</sup>	Brownfield Municipal Grant Program <sup>2</sup>	EPA Brownfields Assessment <sup>3</sup>	EPA Brownfields Cleanup <sup>3 &amp; 4</sup>	EPA Targeted Brownfields Assessment Program <sup>5</sup>	Brownfield Area-Wide Planning Program <sup>6</sup>	Target Brownfield Development Loan Program <sup>7</sup>	Tax Increment Financing <sup>8</sup>	SCPRI <sup>9</sup>	State-Wide Revolving Loan Fund <sup>10</sup>	Brownfield Tax Incentive Program <sup>11</sup>		EPA Revolving Loan Fund <sup>12</sup>
				A = Assessment C = Cleanup R = Redevelopment	A, C, R	A, C	A	C	A	Planning only	A, C	C, R	A, C	C	C, R		C
Shipping Street Area	340 West Thames Street	WISP Partners / Louis Dreyfus Energy	Petroleum		x	x	x		x	x	x		x				This property has had some assessment and remediation activities completed. Additional assessment activities are needed to determine if additional remediation is required.
	55, 60, 67 Terminal Way	WISP Partners / Louis Dreyfus Energy	Petroleum		x	x	x		x	x	x		x				
Trinacria Mill	556 East Main Street	SRS Holding, LLC / Trinacria Specialty Metals	Unknown		x	x	x		x		x		x				

### Notes

- Grants - 10 to 20% match
- Loan - low interest rates
- Applicants cannot be responsible for contamination and responsible party cannot be viable.
- Property cannot be subject to NPL, enforcement orders, or government control.
- Some properties may require property specific determination to ensure eligibility either due to consent order, CERCLIS or Superfund listing, or owner is responsible party but not viable.
- 1 - Must be in distressed municipality or target investment community. Recovery of state funds committed to the project will be sought.
- 2 - Awards broken down by population size. Site cannot be a superfund, subject to RCRA Corrective Action, or subject to order or fines by DEEP.
- 3 - National competition with applications accepted in Oct-Nov and awards granted in May-June
- 4 - Applicant must own the site at the time the application is submitted.
- 5 - Applicant must own the site or the site must be abandoned (no viable owner). Assessments conducted by EPA .
- 6 - Funding for planning purposes only covering a "target area" - (more than one property).
- 7 - Available to Brownfields being redeveloped for manufacturing, retail, residential, or mixed use.
- 8 - Leverages funding for public projects based on future forecasted tax revenues to be generated by proposed redevelopment.
- 9 - Loan has 5-year terms with interest only payments until property is sold, RAP is completed, or remediation is completed. Does not cover Phase I ESAs, but will cover abatement and demolition.
- 10 - The site must have been purchased after 9/11/02. Must have RAP and Cost estimates available. Grants provided if for open space. Loans to be paid within 7 years.
- 11 - Allows developer/property owner to use cleanup expenses as a tax write off in the year they were incurred. This program is intermitten.
- 12 - Allows municipalities to request a grant of up to one million dollars to provide subgrants and loans to Brownfields developers. At least 50% of RLF must be used for loans.

## **Appendix: D**

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### Program of Redevelopment



EPA Community-Wide Assessment Grants

- Community-Wide Hazardous Substances - \$200K
- Community-Wide Petroleum - \$200K
- Apply for both in same application - \$400K
- No matching requirement
- Use on any sites, City or privately owned
- City can have LEP investigate private property that is in tax delinquency
- Can be used for re: site inventory, site investigation, cleanup and redevelopment planning, community outreach
- Three year time period
- Last year's application? Debrief with EPA?
- List of previous grants
- New applications not published by EPA yet
- Public Notice
- Letters of Support – State letter, assistance from City, Community Development and RDA needed
- Brownfield prioritization and planning study excellent for application

**Notes:**

City may modify the parking requirement if uses can share parking. For residential units, the estimated parking demand provides 1.5 spaces per unit.  
Two-bedroom unit for Ponemah Mills = 1200 GSF  
Two-bedroom unit for Chestnut Street Mills and Shipping Street Area = 1400 GSF  
Estimated Gross SF is based on data from the Norwich Assessors Online Database.  
Net SF = 70% of estimated Gross SF for residential and commercial uses and 80% for industrial uses.  
The estimated change in taxes is conservative as it only factors in the improvement value of the redeveloped buildings (not the redeveloped land as well).

**General parking standards by zoning:**

Retail = 1 space for each 200 gsf on first floor, and 1 space for each 300 gsf above first floor (storage not included)  
Office = 1 space for each 300 gsf (basement storage not included)  
Restaurant = 1 space for each 150 gsf (basement storage not included)  
Residential 3+ units = 2.5 spaces for each unit  
Industrial = 1 space for each 3 employees

**Assessors Data**

Assessed value is 70% of market/appraised value

**Town Mill Rate as of June 2012**

26.90 Code 0

**City Mill Rate as of June 2012**

31.10 Code 1

**Est. Avg. Assessed Value per Building SF**

ROS 52.24

MF 34.31

CC 28.17

GC 49.22

WD 25.12

ID 21.47

*Based on GIS data from NCDC and PeopleGIS*

*Living area converted to Gross Square Footage*

## **Appendix: E**

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### Norwich Brownfield Funding Memorandum

## City of Norwich Brownfields Funding Application

**ATTENDEES:** James Olsen, T & B  
Alan Bergen, City Manager  
Peter Davis, City Planning  
Gary Owens, Community Development  
Sophia, Redevelopment Agency

**FROM:** James T. Olsen, LEP

**DATE:** 8/27/2012

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### Recommended Applications

Connecticut – 1) Regional Brownfield Grant Program 2) Municipal Brownfield Grant Program

EPA – 1) Community-Wide Assessment Grants a) Community-Wide Hazardous Substances  
b) Community-Wide Petroleum

### Deadlines

To be announced. CT generally in October. EPA generally in November.

### Connecticut

- Regional Brownfield Grant (RBG) Program
- Municipal Brownfield Grant (MBG) Program
- Application limit - \$500,000
- Match of 10% for Targeted Investment Community - RBG
- Applicants and project partners must not be responsible for contamination
- Can be used for : site investigation, abatement, demolition, cleanup and redevelopment planning, engineering design, remediation, site acquisition, site work and infrastructure improvements
- New or expanded housing, manufacturing, mixed use developments, retaining or expanding jobs - MBG
- New or expanded manufacturing, economic-base industries, affordable housing – RBG
- Evaluation criteria – see fact sheets
- Six awarded annually based on population – MBG