The Spicket River Greenway

Lawrence, Massachusetts

(or, Planning in the Face of Chaos)

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

Environmental Challenges in Lawrence

Brownfields

- There are currently 44 DEP Tier Classified Oil or Hazardous Materials sites in Lawrence, of which more than half are located on or near a river.

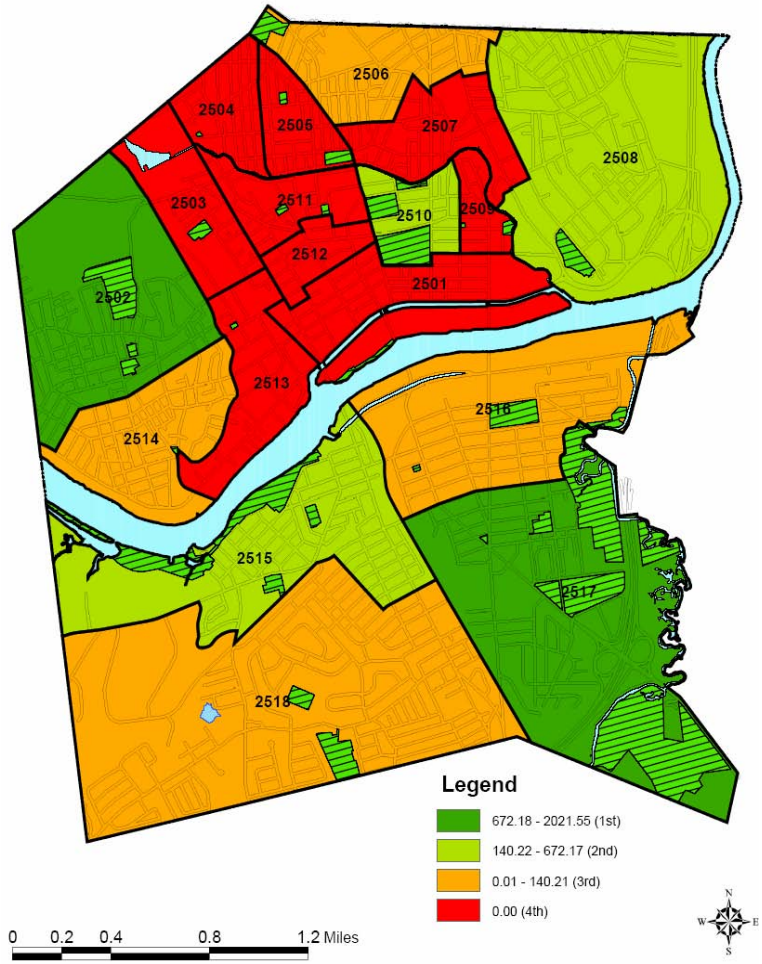
Open Space

- The nine census tracts that make up the central core of north Lawrence have less than 140 square feet of open space per capita.
- The greatest concentration of children and elderly residents live in the census tracts bordering the Spicket River, where there is the least amount of open space.

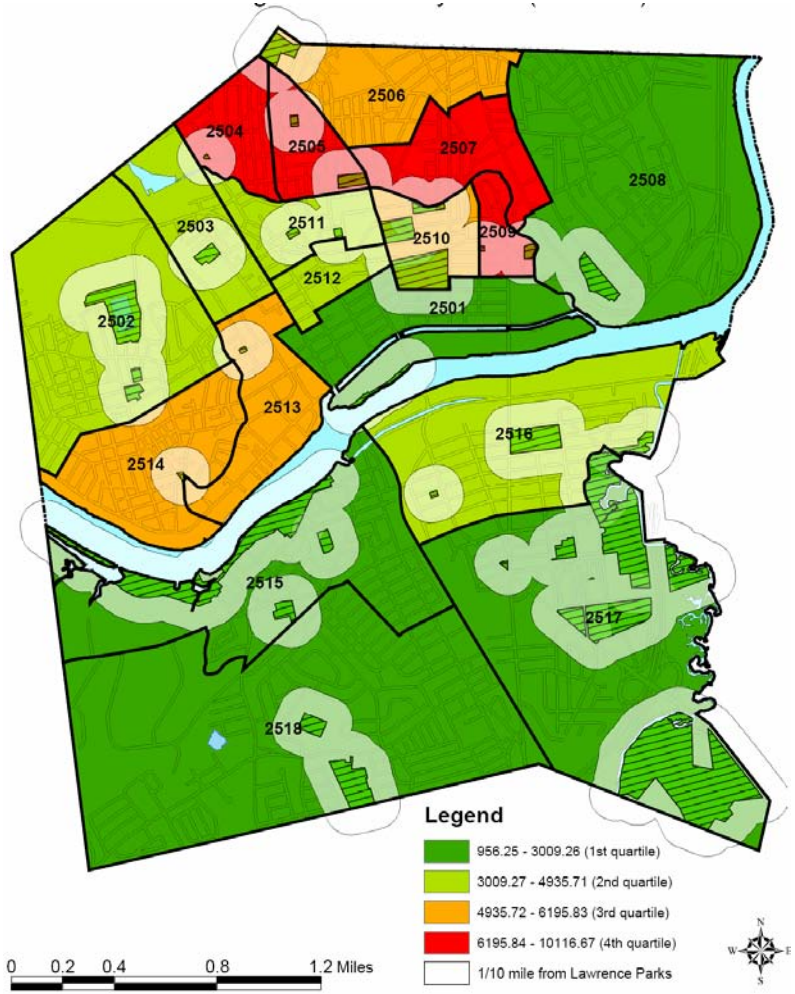
Rivers

- Lawrence's Combined Sewer System empties directly into the Spicket and Merrimack Rivers, overflowing on average 14 times per year.
- Flooding is a persistent problem along the upper section of the Spicket River.

GROUNDWORK
CHANGING PLACES
CHANGING LIVES



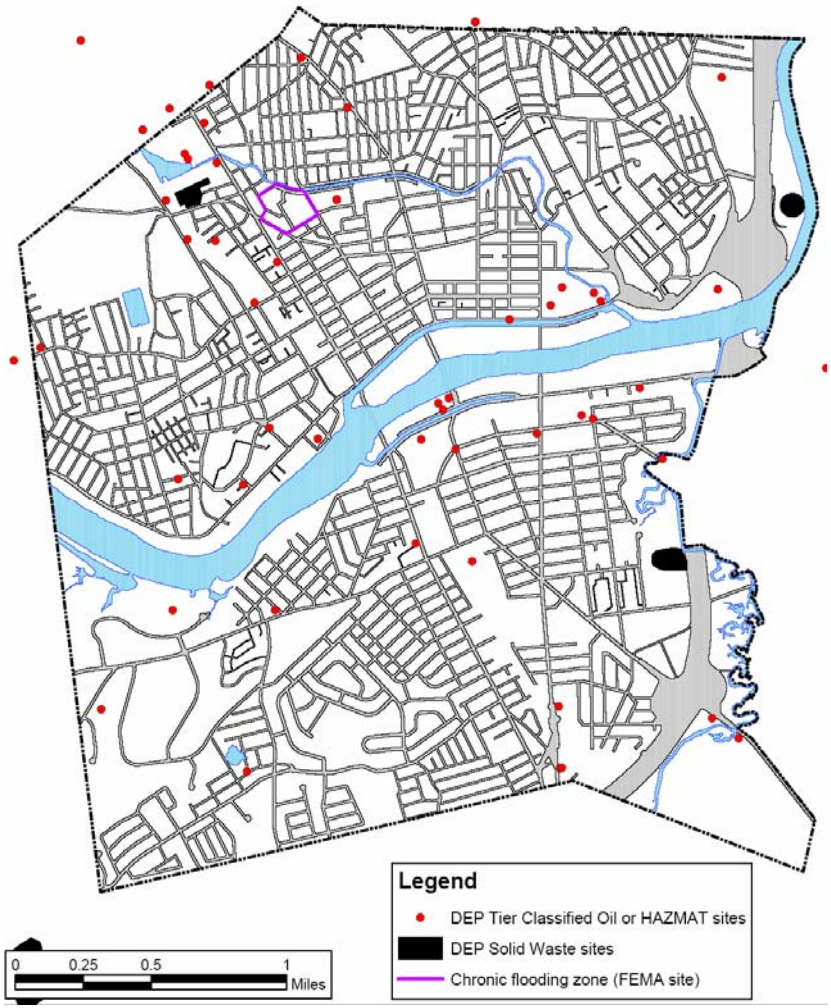
Open Space Per Capita



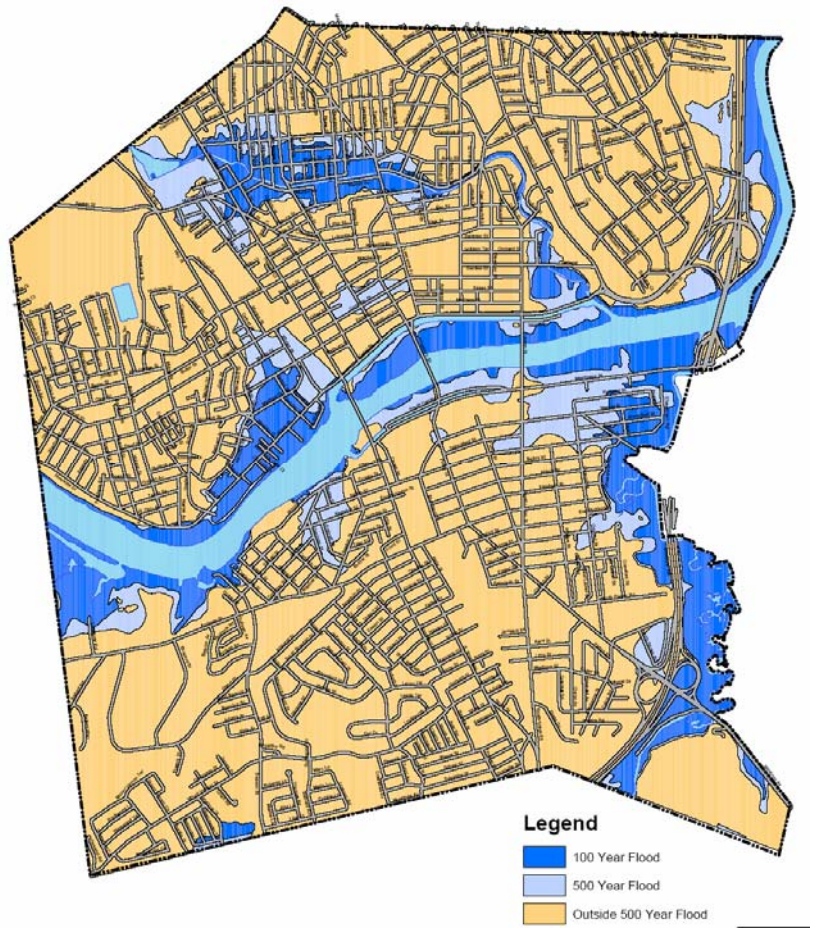
Density of Children Under 15 and walking distance to parks

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006



DEP Tier Classified Sites, Solid Waste Sites, and FEMA Flood Zone



100 and 500 year flood zones

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

Economic Challenges

- *Education:* 42 percent of residents 25 and older did not graduate from high school, compared to 16% statewide
- *Income:* Median household income is $28,000, compared to $50,000 statewide
- *Employment:* Lawrence unemployment is above 8%, compared to 4% statewide
- *Housing:* 30% of housing units are owner-occupied, compared to 58% statewide

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

Demographic Trends

- Steady growth in population from 69,000 in 1980 to 72,000 in 2000
- Youngest population in the state: 43% of residents are under the age of 24
- Majority Latino population, primarily from the Dominican Republic and Puerto Rico
- Growing Southeast Asian population

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

The Environmental Leaders of Tomorrow… and Today

DUSP 11.360 Presentation
October 19, 2006

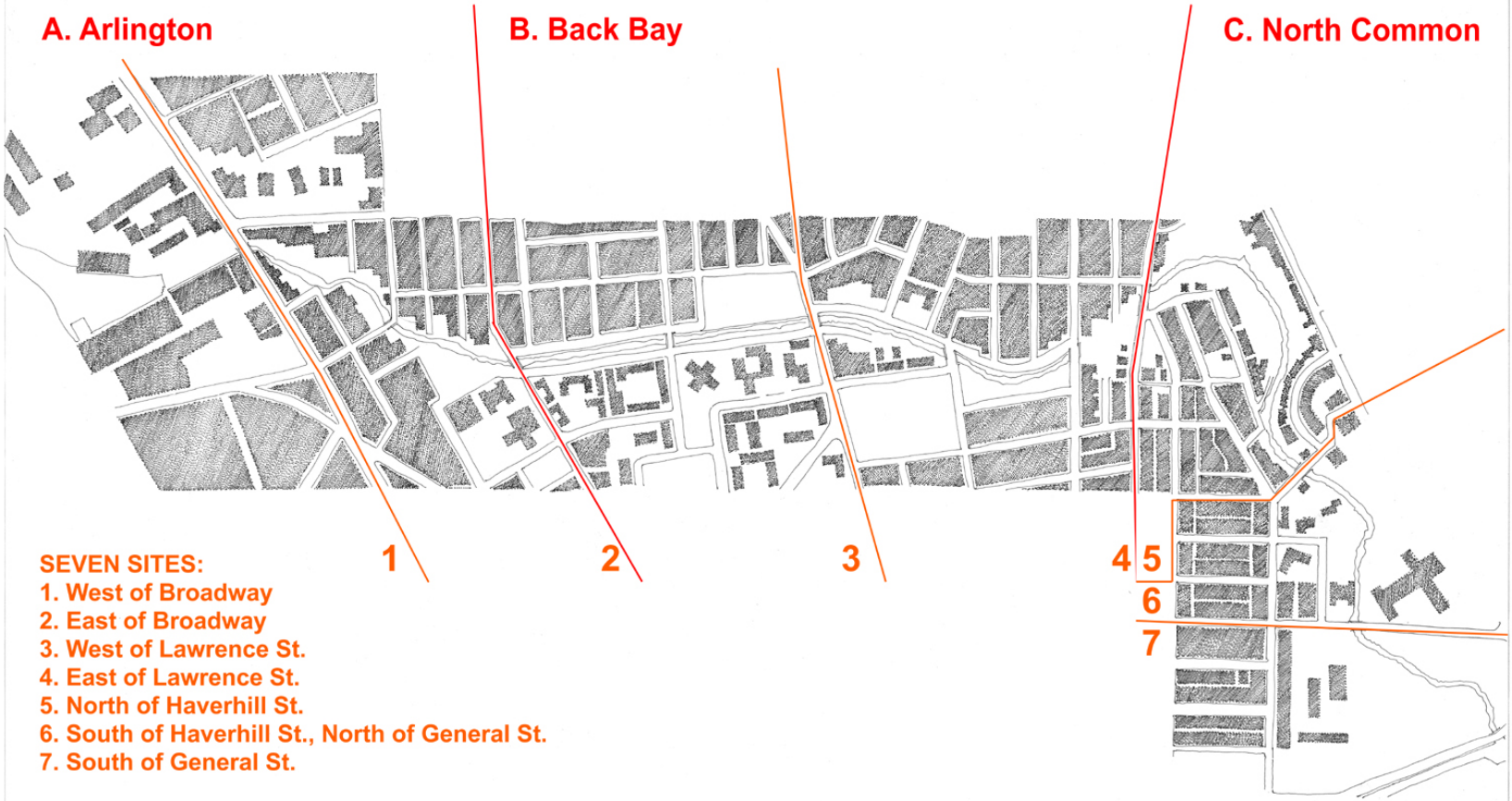
GROUNDWORK
CHANGING PLACES
CHANGING LIVES

The Spicket River Greenway: Creating a Community Asset

- Eleven city parks and a historic Cemetery are located within a quarter-mile of the Spicket River
- Twelve schools are located within half a mile of the Spicket River
- Potential for 15+ acres of new riverfront parkland on already vacant land
- Greenway could encompass approximately three miles of riverfront walking/cycling trails

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

SPICKET RIVER GREENWAY
Neighborhood Units



SEVEN SITES:

1. West of Broadway
2. East of Broadway
3. West of Lawrence St.
4. East of Lawrence St.
5. North of Haverhill St.
6. South of Haverhill St., North of General St.
7. South of General St.

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

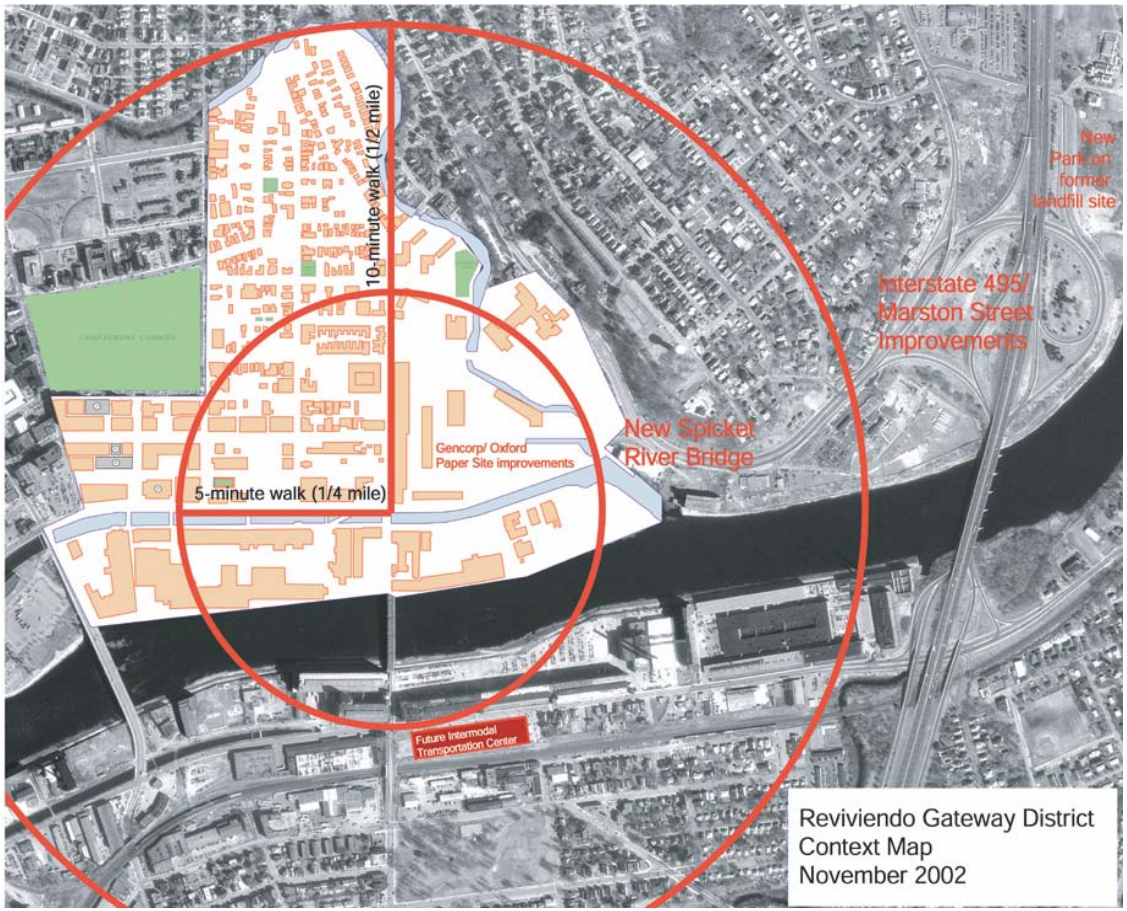
Annual Spicket River Cleanup, 2001-2006

More than 50 tons of trash removed from the river!

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

Brownfields as Catalyst for Revitalization: the Reviviendo Gateway Intiative (RGI)



GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

The Gateway District

- Approximately 140 acres in the center of the city
- Includes the historic mill district, downtown, and North Common neighborhood
- Home to 3000 residents and more than 250 businesses
- Five million square feet of mill space concentrated around the North Canal
- Bounded by the Spicket River, North Canal, and Merrimack River

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

EPA: Elements of Smart Growth

•**Healthy communities** -- that provide families with a clean environment. Smart growth balances development and environmental protection -- accommodating growth while preserving open space and critical habitat, reusing land, and protecting water supplies and air quality.

•**Economic development and jobs** -- that create business opportunities and improve local tax base; that provide neighborhood services and amenities; and that create economically competitive communities.

•**Strong neighborhoods** -- which provide a range of housing options giving people the opportunity to choose housing that best suits them. It maintains and enhances the value of existing neighborhoods and creates a sense of community.

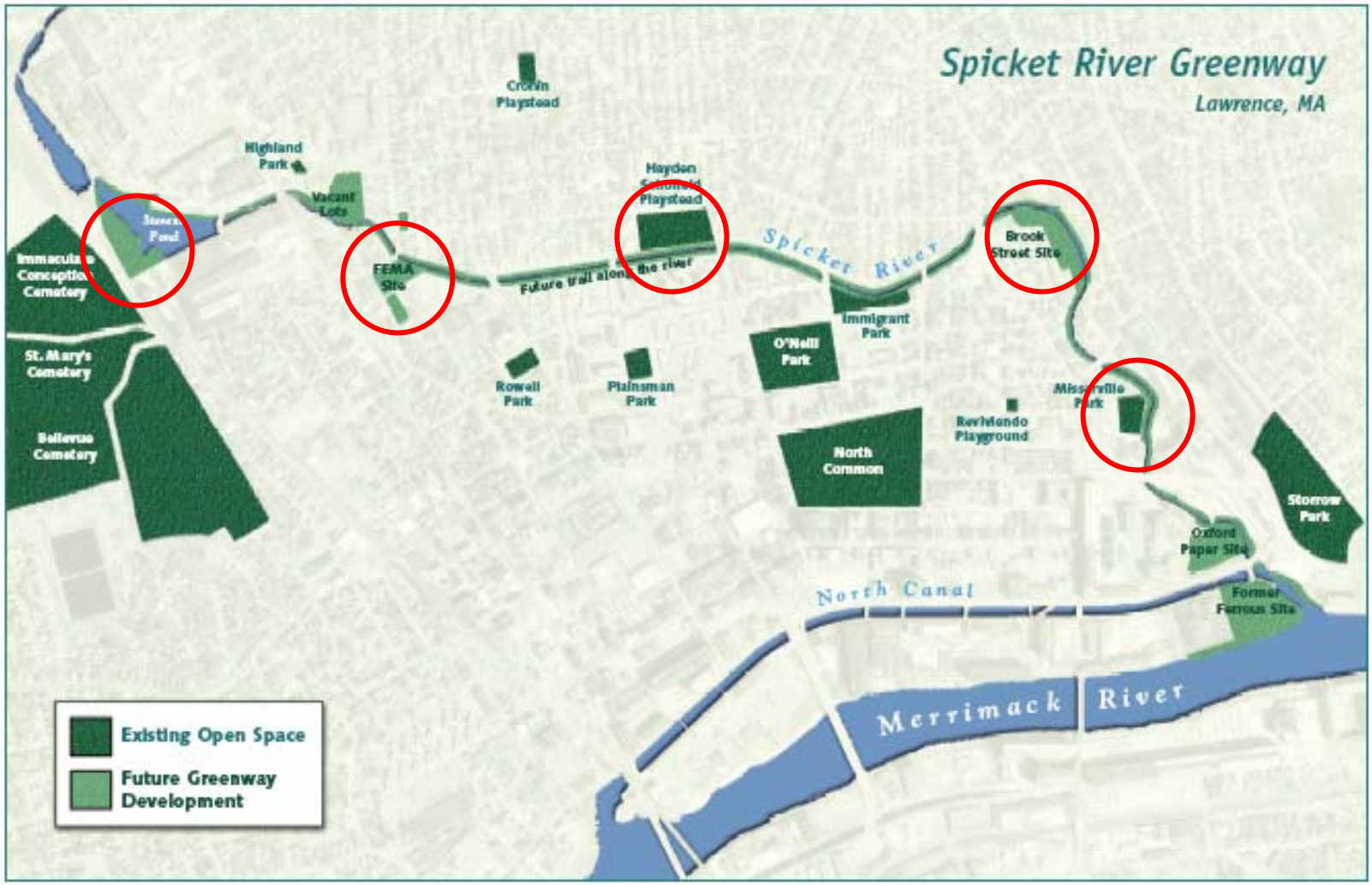
•**Transportation choices** -- that give people the option to walk, ride a bike, take transit, or drive.

Groundwork Green Team: Rapid Ecological Assessments, 2003

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

October 19, 2006

The Spicket River Greenway



GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

STUDY GOALS

SPICKET RIVER GREENWAY DESIGN GUIDELINES

1. Document existing conditions on the river and along both edges.
2. Identify existing access points and river crossings.
3. Catalog observable wildlife and habitats.
4. Identify potential enhancement locations.
5. Document instances and locations of dumping and hazardous conditions.
6. Present to community and incorporate input.
7. Develop guidelines for improvements to existing conditions.
8. Secure support of City of Lawrence officials and EOEA.
9. Develop estimate of probable construction costs.
10. Deliver final report to EOEA.

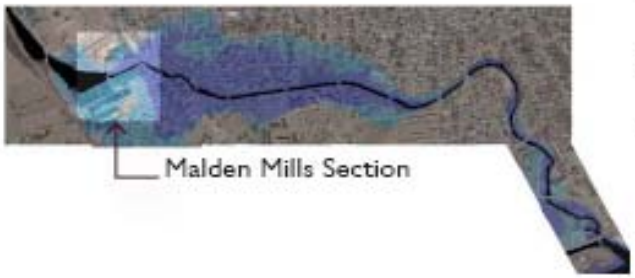
EXISTING GREEN SPACE IN LAWRENCE

LEGEND

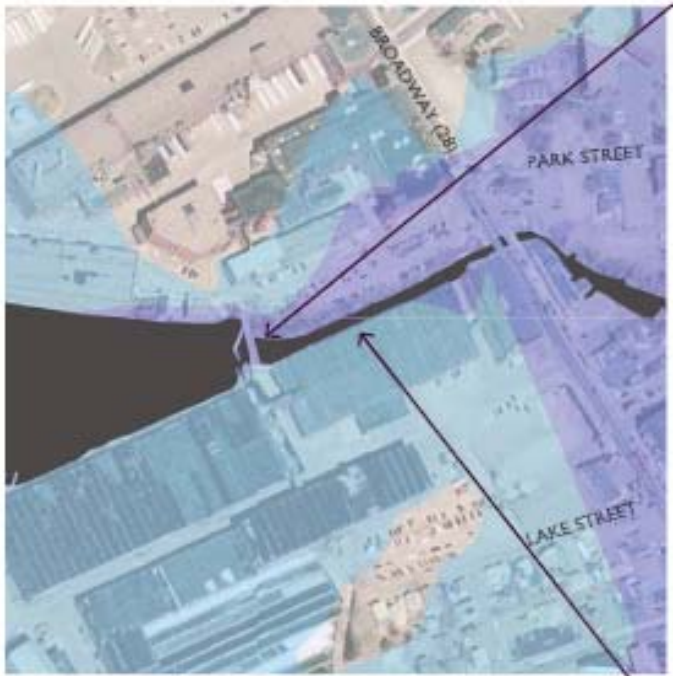
- 100 YEAR FLOOD
- 500 YEAR FLOOD
- OPEN SPACE

Flood of 2006

MALDEN MILLS



- The mill is the western beginning point of the river greenway in Lawrence.
- The mill dam serves as a landmark and the dramatic waterfall as a focal point.
- Remnants of the old mill provide an opportunity to educate the public about the industrial history of Lawrence, which was integral to its founding and growth as a city.
- The riverfront property east of Broadway is a vacant lot under private ownership and currently inaccessible. A possible easement could be acquired for the river greenway before development begins on the site.




malden mills dam


spillway at malden mills

EDUCATION

EDUCATIONAL OPPORTUNITIES

- The river greenway and trail could be adjacent to several schools to provide an "outdoor classroom," allowing students to learn about the natural systems of the river and become leaders in community environmental education.

- A system of bilingual signs could be placed along the river greenway informing users about the river: its watershed, geology, history, plants and animal inhabitants.

- Develop a series of community events and school programs that celebrate the natural systems of the Spicket River.

- Some paths and resting spots along the river greenway could be located in areas that are only accessible when the river is low and inaccessible when the river is high, providing education and awareness of the Spicket's seasonal flooding patterns.

- Promoting ecological awareness and education about the river can foster stewardship in the community, ending years of neglect, illegal dumping and polluting.

EDUCATIONAL CONSTRAINTS

- Existing conditions limit physical accessibility of the river.

- The visual accessibility of the river is limited due to overgrown vegetative materials, which significantly reduces the river's presence.

- Because many people are unaware of the river's proximity to local schools, it has been disregarded as an educational asset.

RECREATIONAL OPPORTUNITIES

- A river greenway could provide a variety of active recreation opportunities for the residents of North Lawrence such as biking, running, walking, fishing, canoeing and kayaking.
- These active recreational activities could improve the health and quality of life for the community, helping to combat problems of obesity, diabetes and asthma.
- Benches, parks and pavilions provide opportunities for passive recreation such as picnics, lunch breaks and observing nature.
- Organized recreational events such as walkathons, bike races, fund raisers, boat outings, etc., could promote use of the river and foster a greater sense of community with residents.
- The river greenway could connect the various parks adjacent to the river, providing a variety of sport and play activities.
- Green corridors connecting other parks in Lawrence could create further recreational opportunities.

RECREATIONAL CONSTRAINTS

- There is limited physical and visual access to the river.
- The river has become a popular place for dumping which may affect users' interest in actively using the river.
- There is a limited amount of locations for users to passively enjoy the river.
- The river lacks a connected pedestrian path, which may deter users from enjoying a local natural asset.

SOCIAL

SOCIAL OPPORTUNITIES

- Creating a recognizable logo and signage system for the river greenway would give the river more of a presence and identity within the neighborhood.
- Informative signage would enhance the community's understanding and stewardship of the Spicket River.
- Designing connections to other parks and cultural centers in Lawrence will create a safer environment for children and pedestrians, and it will facilitate larger events and festivals.
- A series of cultural events and performances at the parks along the river would create a greater sense of neighborhood involvement and community pride.
- Creating a place that more people would utilize will result in more "eyes on the neighborhood," which will decrease crime.

SOCIAL CONSTRAINTS

- There may be a fear of crime in the neighborhoods adjacent to the river due to underutilization of the existing open space.
- The existing condition of the river's banks is overgrown and may contribute to negative perceptions of care in the community.

ENVIRONMENTAL OPPORTUNITIES

- Creating better physical access to the river would better facilitate the existing annual river cleanup events, such that they could be more efficient and occur more often.
- More extensive and frequent trash cleanups would reduce the fill in the flood way, therefore reducing seasonal flood levels and improve habitat and water quality.
- Reducing contaminants and pollutants in the Spicket River would be a positive step toward improving the overall drinking water quality for cities such as Lawrence, whose source is the Merrimack River, which the Spicket empties into.
- A healthier ecological habitat would provide refuge for many endangered and threatened species such as the blue heron, Atlantic salmon and sturgeon.
- Acquiring easements along the river and purchasing properties through eminent domain would reduce the devastating effect of flooding on residents and land owners.
- With improved river access, another community program could be established to remove exotic/invasive growth, such as oriental bittersweet, which would improve the natural habitat and encourage the growth of native plants and animals.

ENVIRONMENTAL CONSTRAINTS

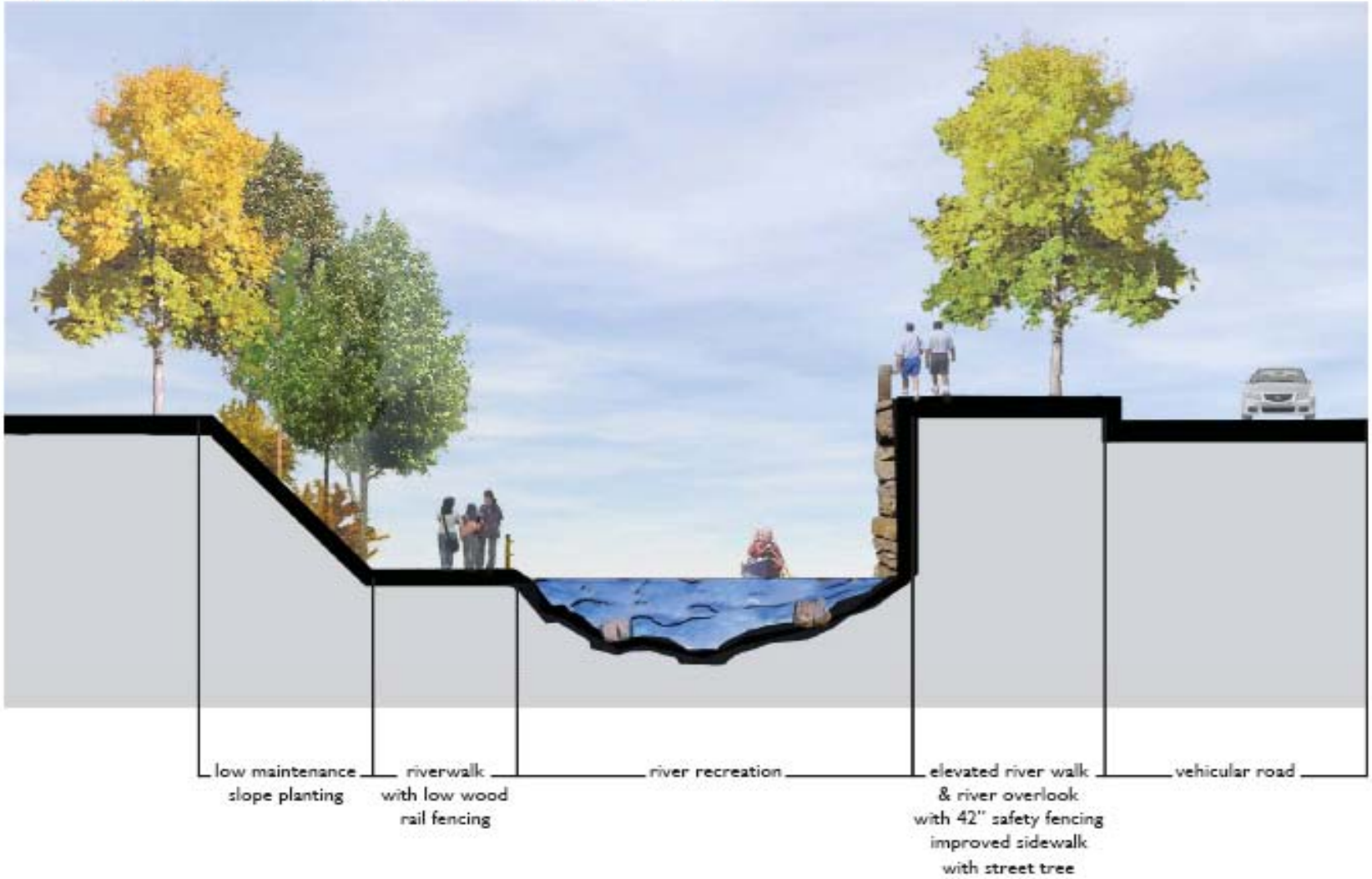
- The river has become a popular place for dumping which will take great effort to make improvements.
- There are a limited amount of locations for users to physically access the water.

Strengthen pedestrian access along the banks of the river and encourage recreational uses.

Enhance river access and connections at existing public open spaces.

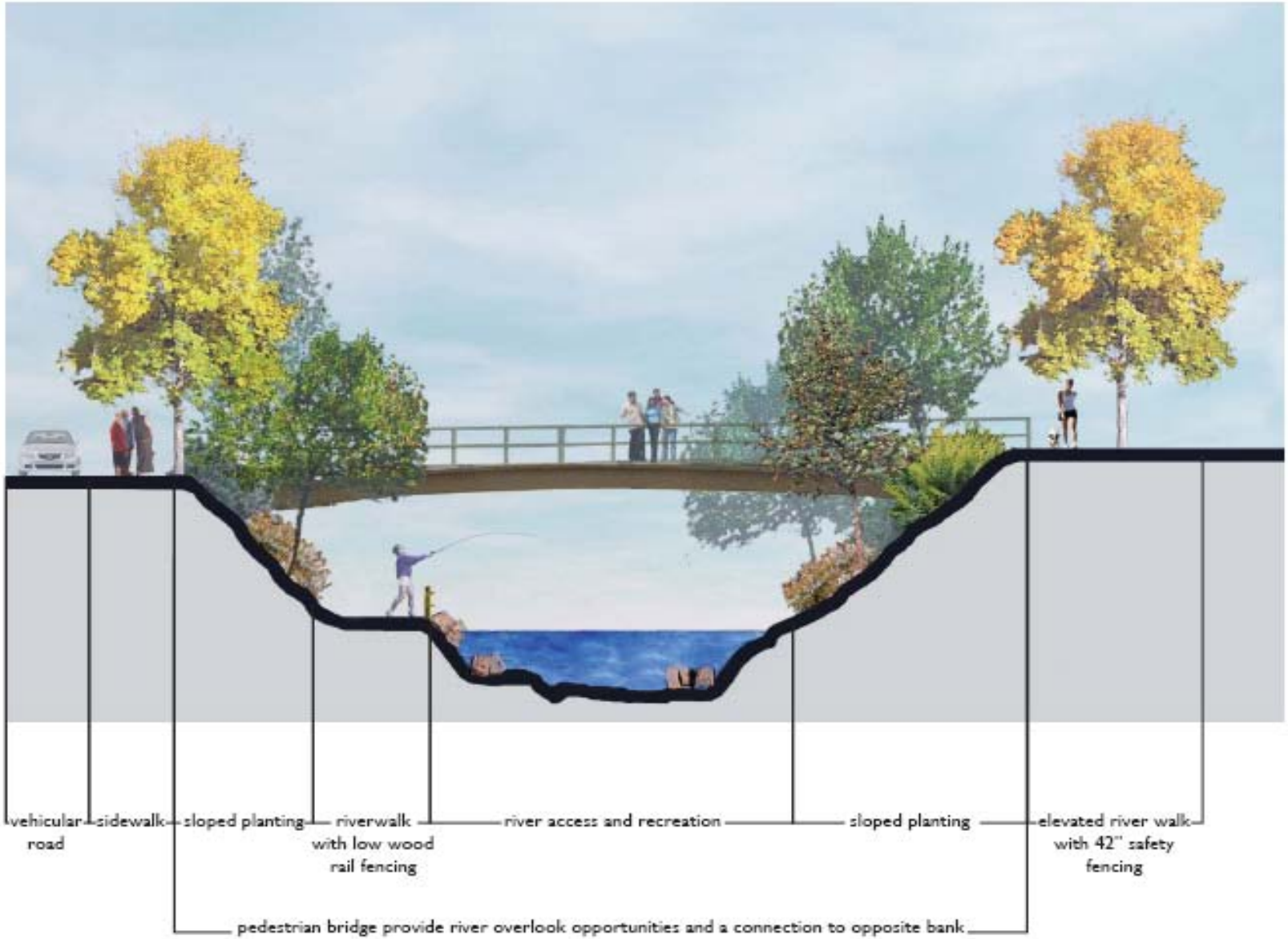
Introduce signage and interpretive stations to tell the story of the Spicket River's history and natural environment.

RETAINING WALL OVERLOOK/ LOWER TRAIL COMBINATION



Typical river edge conditions should include protective safety fencing at elevated grade changes and low wood rail fencing at sections of gentle edge transition.

UPPER TRAIL OVERLOOK AND CONNECTION



SPICKET RIVER GREENWAY DESIGN GUIDELINES June 30, 2006

Estimate of Construction Costs

A. Assumptions

1. The Spicket River measures approximately 2.5 miles from Steven's Pond to the outfall at the Merrimack River. A rough calculation of linear improvements on both banks of the river suggests that a total of twenty-six thousand (26,000) linear feet of river greenway would be required.

2. Railings and fencing would be approximately divided evenly between low wood rail fencing and 42" high chain link fence.

3. Approximately 312,000 square feet of bituminous concrete pavement would be required to pave the full length of the river greenway.

4. Benches, interpretive displays and signage would be located at strategic locations along the length of the project.

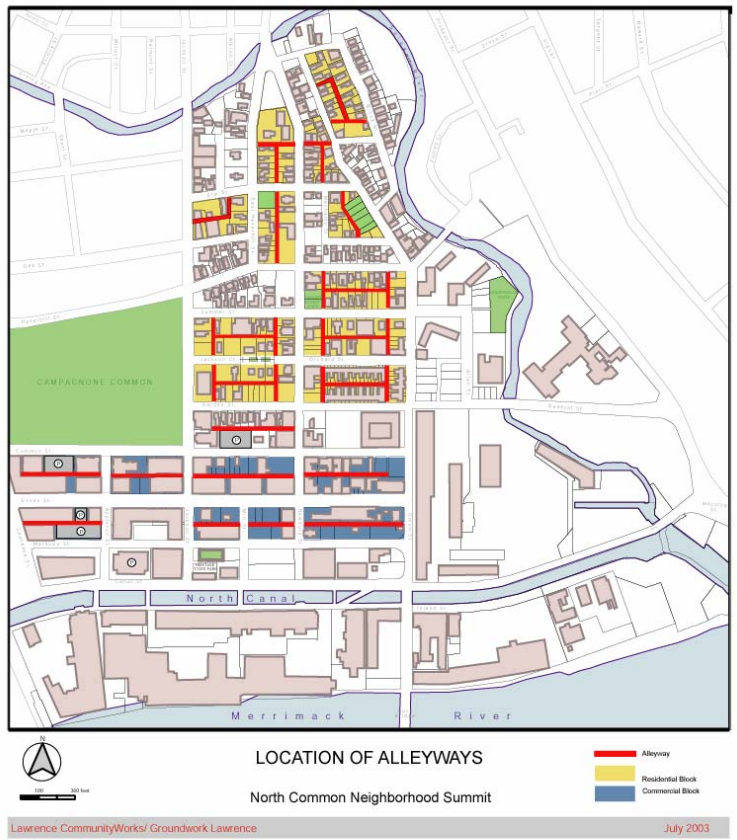
5. Site lighting would be limited to roadway intersections.

B. Cost Estimate

1.	Wood Rail Fence	13,000	LF	@ $50	=	$ 650,000
2.	Chain Link Fence	13,000	LF	@ $75	=	$ 975,000
3.	Bituminous Concrete Pavement	312,000	SF	@ $6	=	$1,872,000
4.	Site Furniture	Lump Sum				$ 100,000
5.	Site Lighting	Lump Sum				$ 200,000
6.	Subtotal					$3,797,000
7.	15% Project Contingency					$ 569,550
8.	Project Total					$4,366,550

RGI Canals & Alleys Campaign

- Canal and alleyways built in the 1850s by the Essex Company, acquired by Enel North America
- Alleyways could create 2.5 acres of new open space in the neighborhood
- Opportunities for LID and storm water management



GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

A Watershed Approach:
The first “Green Alleyway” Project

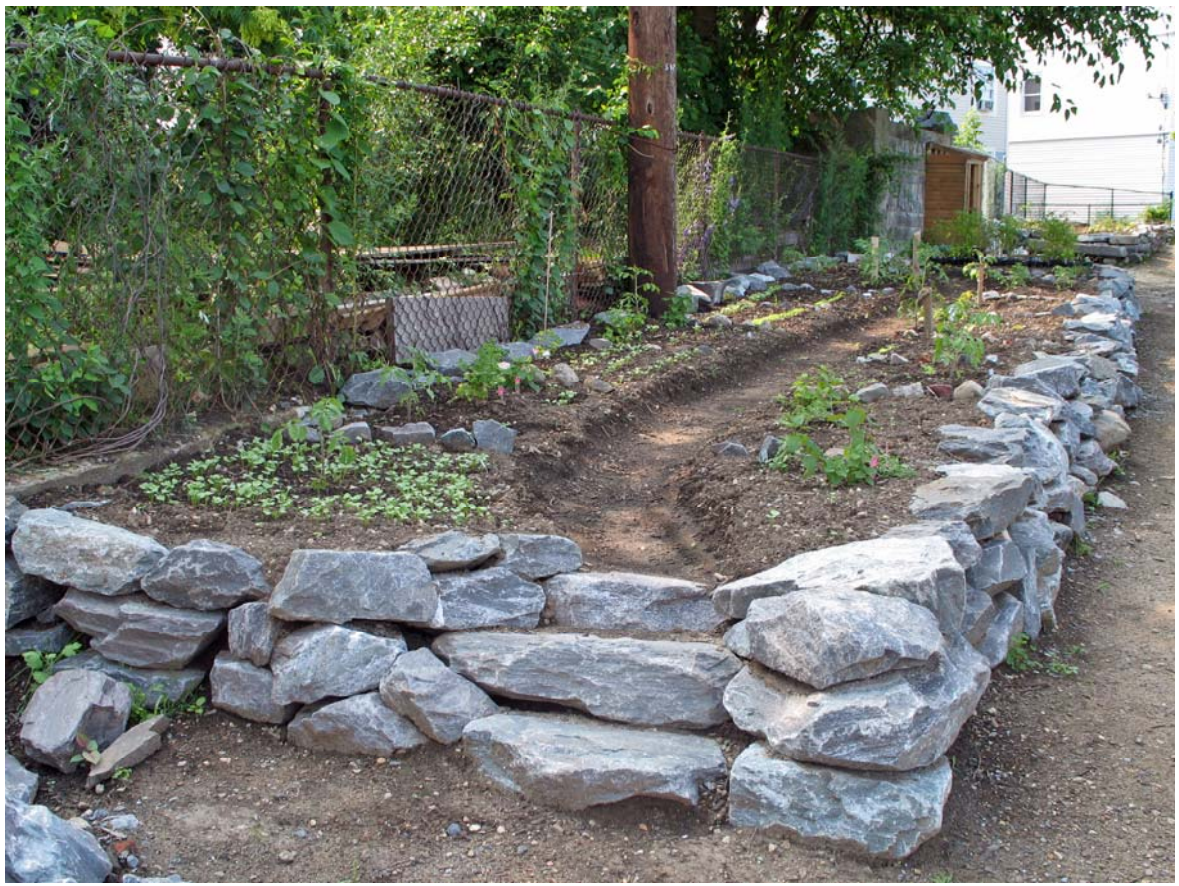
Alley cleanup

Planting the alley garden

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

A Watershed Approach:
The Union & Mechanic Garden Project



GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

The Spicket River Greenway

DUSP 11.360 Presentation
October 19, 2006

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

Greenway Development Sites: Dr. Nina Scarito Park

- 2.67-acre brownfield site located on the Spicket River
- Planning began in 2001; site had been vacant for 15+ years
- $2 million riverfront park opened in October 2006
- Liability relief provided by Mass. AG's office

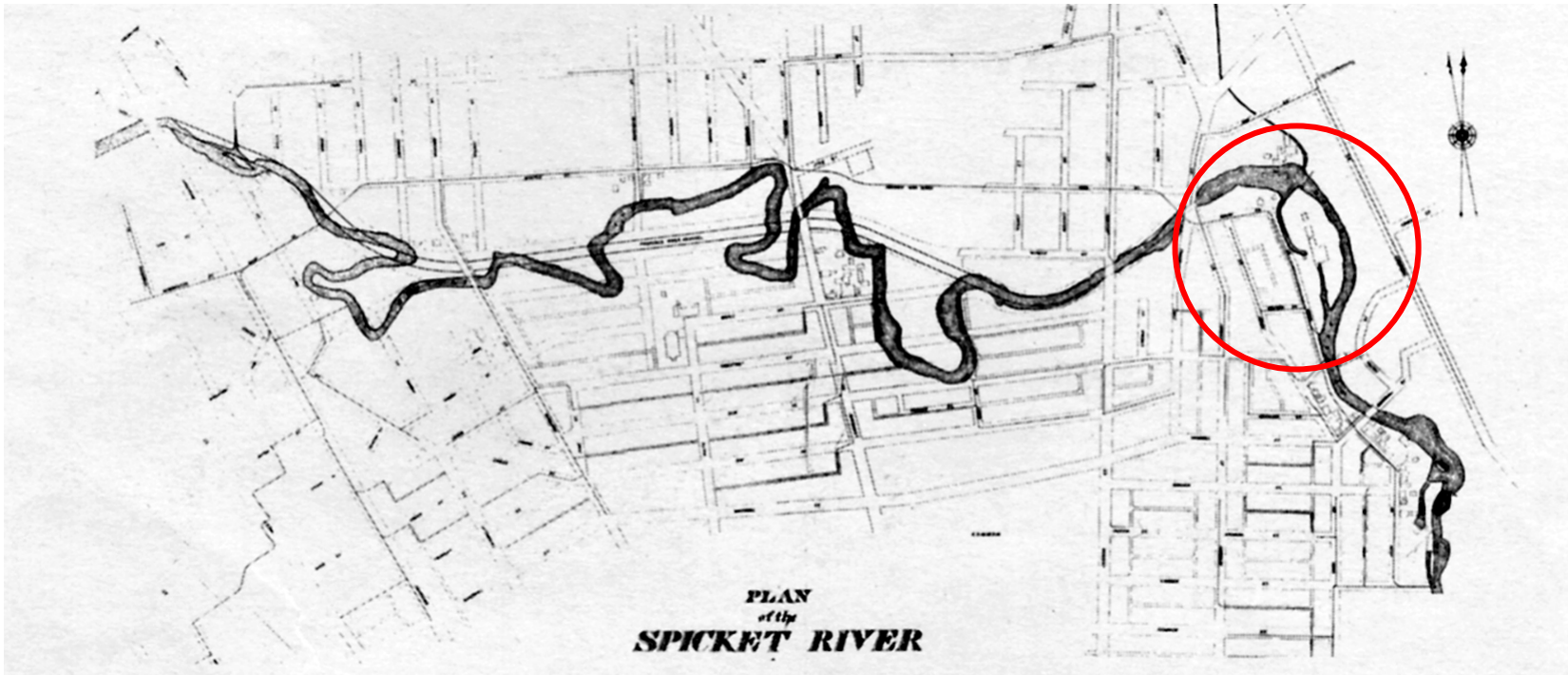
GROUNDWORK
CHANGING PLACES
CHANGING LIVES

The Spicket River at Brook Street: a hidden natural resource

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

History of the Brook Street Site



1850s: Small mill built on the site, including several raceways running through the property

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

History of the Brook Street Site

- 1940s: Site redeveloped into a commercial laundry
- Late 1980s: Laundry buildings demolished, leaving the site vacant

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

History of the Brook Street Site

2002-2003: Groundwork, LCW and Copley Wolff Design Group work with neighborhood residents to create concept plan for a new riverfront park on the site.

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

Brook Street site, 2001

DUSP 11.360 Presentation
October 19, 2006

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

Brook Street site, 2006

DUSP 11.360 Presentation
October 19, 2006

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

DUSP 11.360 Presentation
October 19, 2006

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

Greenway Projects in Development: Arlington Neighborhood Park

GROUNDWORK
CHANGING PLACES
CHANGING LIVES

DUSP 11.360 Presentation
October 19, 2006

Lessons Learned

- **The Last Shall Be First:** Focus grassroots organizing in areas that have the toughest challenges, and target resources to sites that don't have the most obvious potential– the rest will follow.
- **Neighborhood & Watershed Connections:** Tie Greenway development to larger planning efforts at the neighborhood and watershed level.
- **Big Vision, Small Steps:** Develop a clear message and graphics that convey the vision for the project; be creative about small steps toward implementation.
- **Politics and Partnerships:** Engage a diverse constituency and build strong partnerships that generate investment in the project, from local volunteer groups to nearby property owners and state agencies. Organize community events and activities (e.g. design charrettes, cleanups, educational programs, etc.) to help keep people connected to the project throughout its development.

GROUNDWORK
CHANGING PLACES
CHANGING LIVES