Milton Avenue Woods

- 94 acres
- Mostly wetlands with poorly drained soils
- Documented habitat:
  - State-listed endangered species (wood turtle, great blue heron)
  - Species of concern (fowlers toad, spotted turtle)
- Proximity to schools and residential neighborhoods
Objectives

- Identify existing vegetation patterns and invasive species
- Recommendations for invasive species removal
- Potential for habitat restoration and native vegetation enhancement
- Recommendations for public access and use
Vegetation Zones

- Six unique vegetation communities or habitat zones
- Vary by dominant native plant community matrix
Vegetation Zones

Zone 1 – Kelly’s Pond Classroom
- Native floodplain and riparian hardwood vegetation
  - Red maple
  - Tulip tree
  - American sycamore
  - Shagbark hickory
  - Spicebush

Zone 2 – Mulching/Composting Site
- Actively disturbed and maintained by the Borough
- Monitor to minimize stormwater runoff impacts and spread of invasive species seed bank

Source: www.bing.com/maps
Vegetation Zones

Zone 3 – Eastern Terrace
- Better-drained soils support a mix of hardware tree species
  - Hophornbeam
  - Black cherry
  - Pin oak
  - Shagbark hickory
  - American linden
  - Witch hazel

Zone 4 – Interior Swamp
- Dominated by red maple swamp typical of Piedmont flood plain areas
  - Blackened leaves
  - Saturated soils
  - Trees with flared bases
Vegetation Zones

Zone 5 – Floodplain Forest
• Diverse community of floodplain species
  – Cottonwood  – Spicebush
  – American hornbeam  – Swamp white oak
  – Witch hazel  – American sycamore
  – American linden  – Jack-in-the-pulpit

Zone 6 – Western Terrace
• Better-drained soils support a mix of hardware tree species
  – Green ash  – Swamp white oak
  – Shagbark hickory  – American hornbeam
  – Red maple  – Spicebush
Invasive Vegetation Identification

- Typical invasive species (Phragmites, Japanese knotweed, purple loosestrife) not found in any significance
- Minor evidence of common garden escapees (multi-flora rose, Japanese barberry, pachysandra) observed in perimeter areas
- "Green carpet" of Japanese stiltgrass covers extensive areas of woodland floor, particularly in Zone 6
Japanese Stiltgrass

- Annual species that reseeds itself every year
- Tolerant of full sun to heavy shade
- Out-competes other native groundcovers
- Presence of white-tail deer may facilitate its invasion
- Seed bank can persist for five years, requiring long-term management commitment
Invasive Vegetation Management

Mechanical Removal Methods

- Shallow rooted and easily pulled or raked
- Can be mowed or cut with a weed trimmer
- Stems and leaves should be removed from site to prevent seed spreading
- Biomass should be composted to kill any viable seed, or disposed in a landfill

Chemical Treatment Options

- Pre-emergent chemicals applied in early spring keep stiltgrass from germinating
- Post-emergent treatment with a systemic herbicide (glyphosate) kills growing vegetation and keeps it from going to seed
  - Roundup®, non-specific and will kill or damage nearly all types of vegetation
  - Rodeo®, should be used to protect amphibians and aquatic invertebrates
Management and Maintenance

- Enlist and train volunteers using “train the trainer” programs such as Weed Warriors
- Engages the community in park restoration efforts
- Facilitates ongoing maintenance and long-term management
RECOMMENDATIONS FOR RECREATION ACCESS AND ENVIRONMENTAL EDUCATION
Opportunities

- Proximity to Chatham Middle School and Milton Avenue Elementary School
- Existing pathway to and around Kelly's Pond
- Multiple access points from residential streets
- Pedestrian-friendly community

Constraints

- Environmental restrictions
- Pedestrian safety
- Adjacent private property
- Maintenance requirements
Design + Ecology

- Understanding how to facilitate collaboration between design and ecology
- Integrate ecology into the entire design process
- Stakeholder involvement and consensus building
- Synergy and innovation
Layers of Opportunity

Sanctuary

Nursery

Park
Public Access and Passive Recreation

- Identify points of access that connect the larger community while protecting rights of adjacent property owners
- Establish a continuous route that avoids dead ends, protects core habitat areas, and links key destinations
- Highlight scenic qualities that provides an aesthetic experience for pedestrians
- Provide adequate width and sight distance, avoiding poor drainage and blind corners
- Ensure that all user groups are able to experience the site safely
- Display clear signage
- Develop maintenance plan
Framework for Design
Landscape and User Experience

Wildlife Habitat and Humans Separate

Wildlife Habitat and Controlled Human Access

Wildlife Habitat and Open Human Access
Environmental Education

- Outdoor learning centers or classrooms provide dynamic and organic settings
- Offers active learning experience where students can observe and interact with the weather, insects, plants and wildlife
- Allows teachers to extend curriculum themes and projects into an outdoor setting
- Can lead to increased community involvement
Idlewild Experimental Research and Education Center
Queens, New York
Site Views and Understanding
Programming and Education Sequence
Salt Marsh Restoration
Next Steps

- Implement invasives removal program
- Conduct feasibility assessment for passive recreation and environmental education improvements
- Prepare final site plans and permits for restoration and improvements
- Secure required approvals and implementation funding
- Implement habitat restoration and enhancement, passive recreation improvements, and environmental education improvements
Thank You

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