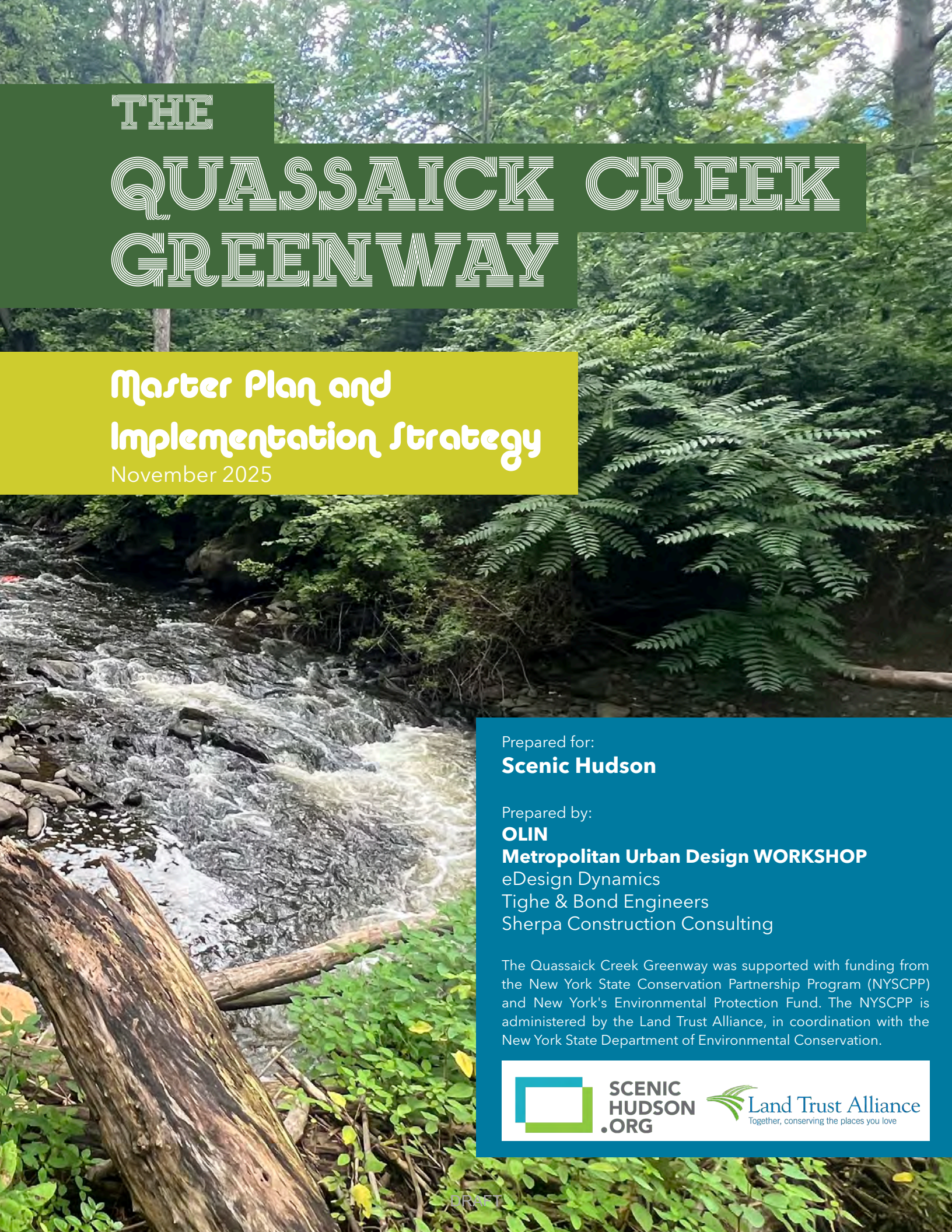

THE QUASSAICK CREEK GREENWAY

Master Plan and Implementation Strategy

November 2025

Prepared for:
Scenic Hudson

Prepared by:
OLIN
Metropolitan Urban Design WORKSHOP
eDesign Dynamics
Tighe & Bond Engineers
Sherpa Construction Consulting

The Quassaick Creek Greenway was supported with funding from the New York State Conservation Partnership Program (NYSCPP) and New York's Environmental Protection Fund. The NYSCPP is administered by the Land Trust Alliance, in coordination with the New York State Department of Environmental Conservation.

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DRAFT

LAND ACKNOWLEDGMENT

It is with gratitude and humility that we acknowledge that we are learning, speaking, and gathering on the ancestral homelands of the Mohican people and the Munsee Lenape people, who are the Indigenous peoples of this land.

Despite tremendous hardship in being forced from here, today their community resides in Wisconsin and is known as the Stockbridge-Munsee Community. We pay honor and respect to their ancestors past and present.

Scenic Hudson is committed to working with communities to address exclusions and erasures of Indigenous peoples, who inspire us to love, protect, and connect with the land, water, and each other.

Figure 1. Quassaick Creek near Diamond Candle Factory (front cover). Source: OLIN.

DEAR FRIENDS OF THE QUASSAICK,

Through many years of planning, design, and consultation with the community and the land, we offer the following plan for the community, government officials, and conservationists to take the next steps in making the Quassaick Creek Greenway a reality. We have been fortunate to work with and alongside a Steering Committee made up of a fantastic group of stakeholders and community members that have guided this plan and vision for two years since a Feasibility Study was published in 2023. This plan builds on the concepts and principles that were developed in the feasibility study and adds a level of detail needed to catalyze greenway development in the near and mid-term while outlining critical steps to ensure that longer-term strategies are also well positioned to be successful.

The Steering Committee and an engaged public have been at the forefront of this plan. It was powered by a generous grant from the New York State Conservation Partnership Program, administered by the Land Trust Alliance. The grant along with funding from Scenic Hudson allowed us to partner with renowned landscape architecture firm OLIN to develop this plan and strategy. A key deliverable of this work was to highlight the opportunities that are best suited to jumpstart implementation. The plan identifies four focus areas and a catalyst project that reflects the vision, capacity, and feasibility that was gained throughout the process.

The Greenway is intended to connect communities in the City of Newburgh and Town of New Windsor with the benefits of nature right in their back yards. The Quassaick Creek is a beautiful and wild tributary of the Hudson River and offers so much in terms of access to wild places, climate resilience, and health benefits of spending time in nature. This two-and-a-half mile reach of the Quassaick is just the beginning of a regional vision, as the watershed stretches across Orange County and nearly twenty-two miles up into Ulster County.

We have come a long way with contributions from landowners, local governments, and community organizations to co-create this strategy. The building blocks are starting to align. The watershed has great stewards, and we invite you to become one as well. This plan is not only a strategy for implementation, but also a call to action. There are many ways to advocate for this community asset. We hope that as you read this plan you can envision yourself, your family, your neighbors, and the wildlife of the Hudson Valley on the trail—enjoying the biodiversity, recreational opportunities, and community connections that are alive in this plan. We invite you to become a champion of the Quassaick Creek Greenway.

Happy trails,

Duane Martinez
Director of Urban Conservation, Scenic Hudson

Seth McKee
Executive Director, The Scenic Hudson Land Trust

Jack Caldwell
Chair of the Quassaick Creek Greenway Steering Committee
and member of the Quassaick Creek Watershed Alliance

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1 | EXECUTIVE SUMMARY

Figure 2 Conceptual rendering of the Quassaick Creek Greenway Lower Gorge Trails. Source: FHN

A greenway along the Quassaick Creek is a long-held vision for transforming this verdant corridor into a recreational and ecological asset that connects neighborhoods, provides better access to open space and nature in the City of Newburgh and Town of New Windsor, and reduces risks associated with climate change and extreme weather.

THE QUASSAICK CREEK GREENWAY

Rooted in decades of local efforts, advocacy, and community engagement, the Quassaick Creek Greenway is envisioned as an accessible trail system that connects neighbors with the beauty of the creek. The plan aims to promote equitable access to this hidden gem while expanding safe and sustainable mobility options, fulfilling the critical need for recreational destinations and connectivity for the City of Newburgh, Town of New Windsor, and the region.

The Greenway will weave through the lower two and a half miles of the creek corridor, connecting the scenic and recreational attraction of the Hudson River with the highest point of the Greenway atop Scenic Hudson's Snake Hill Preserve, which offers immersive forest hikes and scenic views.

Once part of the traditional lands of the Waoranek or Esopus people, the Quassaick Creek corridor has served as both a natural boundary and an industrial workhorse, shaping the landscape and livelihoods of Newburgh and New Windsor. The industrial economy has left cultural remnants marking a history of the creek, as well as soil and water contamination that pose challenges to access and environmental health of the creek corridor. Visions of a future Quassaick Creek Greenway harken back to historic recreational uses at the Vale of Avoca, a popular picnicking spot along the creek near the Hudson River, as well as beach-going and boating at Crystal Lake.

For the past two decades government agencies, community members, and local organizations have advocated for the collective vision of a renewed creek corridor. The Greenway will offer residents safe, accessible trails for walking and biking, linking neighborhoods to parks, schools, and local businesses while fostering a deeper connection to nature. It will provide broad access and essential green space, mitigating urban heat, improving air and water quality, and reducing flood risks. Ecological restoration efforts, including native plantings, habitat rehabilitation, and stormwater management, will improve water quality and revive the creek's role as a thriving, biodiverse corridor.

> The benefits of the Quassaick Creek Greenway are critical to local communities, identified as experiencing disproportionate exposure to environmental hazards and climate impacts. With growing momentum, the Greenway will balance environmental health with equitable access to nature and recreation for generations to come.

Figure 3. **Historic postcard showing Vale of Avoca.** Source: Newburgh Free Library via New York Heritage Digital Collections (https://nyheritage.contentdm.oclc.org/digital/collection/newburgh/id/556/).

REGIONAL CONNECTIONS

The Quassaick Creek Greenway is positioned to tie into other regional trail networks, offering wider mobility and access opportunities.

For example, the Orange County Bikeway Vision, published in 2023, plans for a connected network of separated bike routes to provide safe and "stress-free" modes of travel and recreation throughout the county. A "rails-to-trail" approach to the Greenway could activate an underutilized rail line adjacent to the creek. Orange County is also part of the "Growing Greenways" vision plan, which seeks to create an off-road trail network over more than 250 miles that would connect more than 20 communities across Ulster, Sullivan, and Orange Counties. Another initiative, termed the Regional Connector, could link the Greenway to pedestrian and bike trails in the City of Newburgh, across the Newburgh-Beacon Bridge and beyond to robust recreational trails, including the Hudson Highlands Fjord Trail and the Beacon Metro-North station.

"The [Orange County] Bikeway Vision is to establish a separated non-motorized transportation system throughout Orange County, NY, that provides a realm for the most vulnerable users of our roadways to travel and recreate safely and stress-free both within communities and over long distances."

Orange County Bikeway Vision,
Orange County Department of Planning,
December 7, 2023

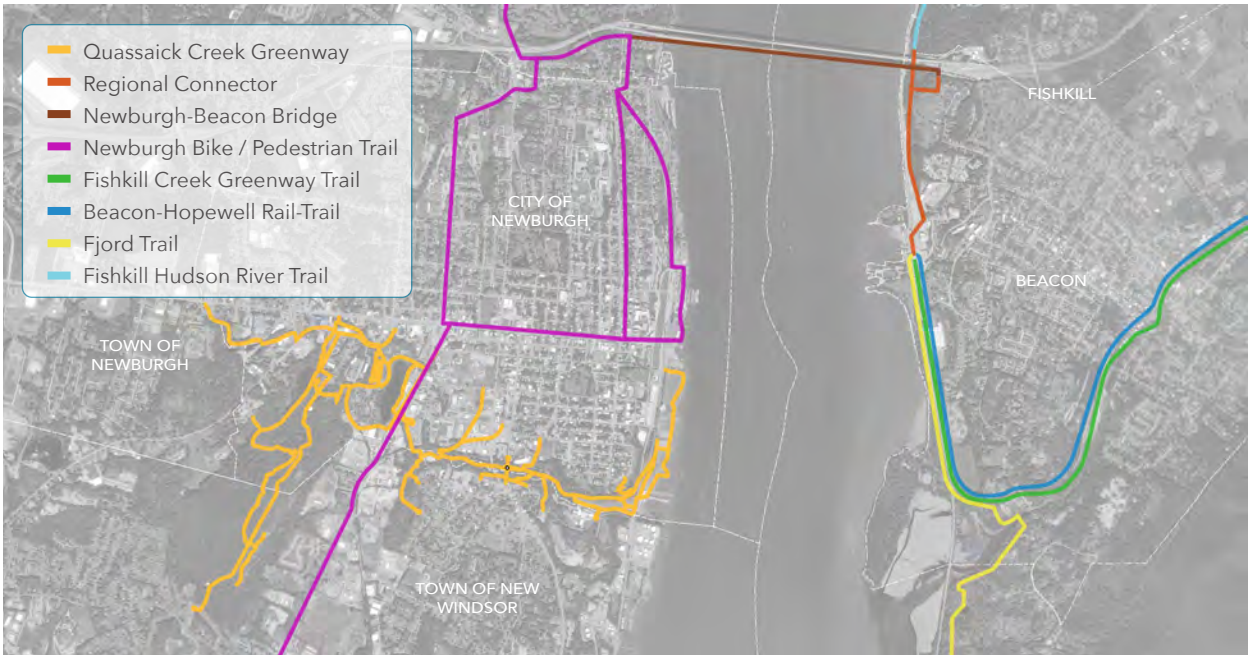


Figure 4. **Regional Connections.** Source: OLIN, based on https://www.thefullerton.org/projects/regionalconnector

ADVOCATES AND CHAMPIONS

> For decades, many groups and individuals have been inspired to reimagine a healthier and connective creek corridor: an ecologically thriving stream valley that offers recreation and mobility to the surrounding community while celebrating its cultural history.

Today, among many who advocate for the health and awareness of the creek, the Quassaick Creek Watershed Alliance, the City of Newburgh, the Town of New Windsor, Orange County, Ecological Citizens Project, Greater Newburgh Parks Conservancy, Newburgh Wants a Park, Newburgh Waterways Center, Orange County Land Trust, Outdoor Promise, and Riverkeeper are actively working at various scales toward a healthy and more accessible creek corridor.

The implementation planning for the Quassaick Creek Greenway is an effort to document and realize the work of these groups and includes necessary engagement with the many stakeholders and community leaders dedicated to the resilient communities within the Quassaick Creek watershed.

Quassaick Creek Greenway Steering Committee

Guidance on the Master Plan and Implementation Strategy was provided by dedicated representatives of the following governments and organizations:

City of Newburgh
Town of New Windsor
Orange County
Quassaick Creek Watershed Alliance
Newburgh Rowers Club
Newburgh Clean Water Project
Riverkeeper
Orange County Land Trust
Outdoor Promise
EJ Fellows
NY-NJ Trail Conference
Scenic Hudson Land Trust

Figure 5. Outdoor Promise Hike at Snake Hill Preserve. Source: Ronald Zorilla.

ADVANCING COMMUNITY AMBITIONS

Since 2020, Scenic Hudson has joined the charge in restoring and reinventing the Quassaick Creek corridor for the surrounding communities by contributing advocacy, awareness programming, engagement, and planning and design efforts through its River Cities Program. Building upon more than 20 direct or related previous analyses and planning efforts, a Feasibility Study was prepared in 2023 in collaboration with local advocacy organizations and community members to determine potential trail alignments, priorities for programming, and implementation considerations such as land ownership, funding, and phasing.

A Steering Committee was formed to ensure engagement with stakeholders and guidance of the Feasibility Study planning by local advocates and municipal and county partners. The 2023 Feasibility Study provides a strong basis of engagement and planning that serves as the starting point for this Implementation Strategy.

Figure 6. Cover of the Quassaick Creek Greenway Feasibility Study. Source: Scenic Hudson.

2023 Feasibility Study Principles

1 | Access
Create safe and inclusive public spaces that strengthen neighborhood access and residents' connection to the Quassaick Creek.

2 | Ecology
Adopt design and planning strategies that support the ecology of the creek and improve its biodiversity.

3 | Climate Resilience
Build in resilience to natural disasters and climate change, including the potential for stormwater management, and heat islands.

4 | Recreation
Design spaces that support a range of recreational uses, including walking, running, biking; creek related activities such as fishing; and reflective uses such as wildlife viewing.

5 | Equity
Increase awareness of the creek by ensuring equity in access, and use by a wide array of ages and abilities.

6 | Connections
Connect the Greenway to places of gathering, including public parks, natural landmarks, and places of work and commerce in communities along the creek.

7 | Economy
Explore designs that foster green job creation and increased activity for small businesses.

8 | Mobility
Strengthen connections to existing and proposed regional trail systems to make green mobility a convenient choice for all residents.

9 | Stewardship
Establish a management and stewardship structure that ensures long-term sustainability of the Greenway.

10 | Culture
Honor the history and culture of communities along the creek through installations and programming that tell the story of the land and its people.

MASTER PLAN AND IMPLEMENTATION STRATEGY

The continued evolution of Quassaick Creek Greenway planning represents a shared commitment to restoring and celebrating this natural asset for generations to come. The **Master Plan and Implementation Strategy** includes refinements of the trail alignment along with the identification of a Catalyst Project. The Catalyst Project will be the main focus of an initial capital investment strategy that will activate and draw further energy and funding to the Greenway.

The continuous Greenway will create places to connect with water, play in nature, learn about stream ecology, explore local history, and be part of a thriving, healthy community. The main Greenway trail extends from the Hudson River to trails on Scenic Hudson's Snake Hill property, connecting open space owned by the City of Newburgh and Town of New Windsor. Access points, new parks, and secondary trails welcome locals and visitors along the way.

The location of trails, park development projects, and opportunities to protect habitat have been planned based on available land, ease of access, and potential for enhancing public benefit. The implementation of each of the projects within the plan are influenced by many factors, such as land availability, time needed for site acquisition or clean up, alignment with adjacent improvement projects, availability of funding, and capacity of project stewards.

The **Lower Gorge Trails Catalyst Project** fulfills the City of Newburgh's longstanding plans to provide access to one of the most inspiring areas of the creek, in close proximity to some of the densest neighborhoods, while anticipating future connection to park projects initiated along the Hudson River waterfront.

To make these plans a reality, more technical work is necessary. Fundraising, engineering studies, site-specific designs, and permit approvals from various levels of government will be necessary for the Catalyst Project as well as each segment of the plan. Continued collaboration with property owners and government agencies, raising funds, and co-creating designs with community members are the next steps to bringing these ideas to life.

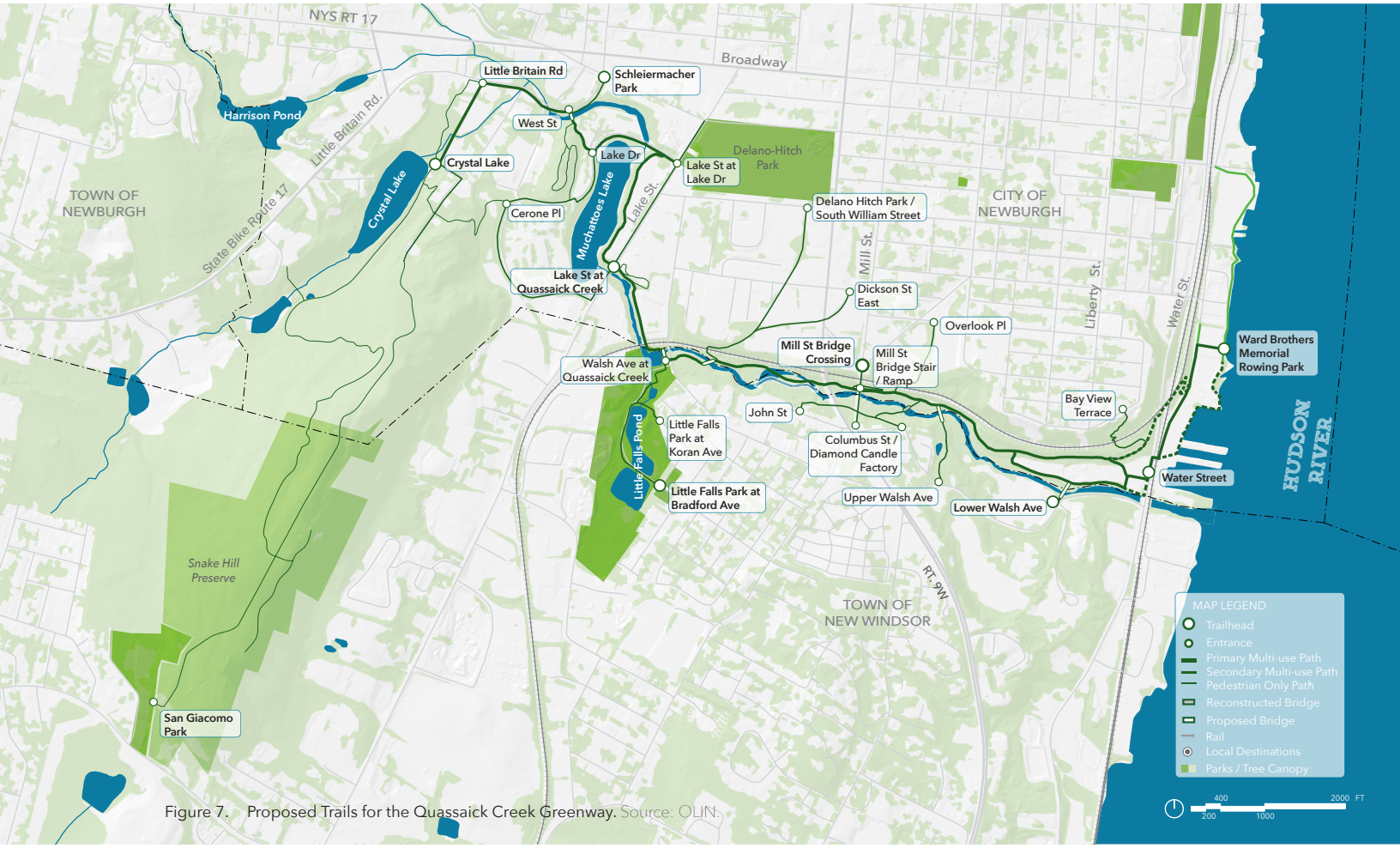


Figure 7. Proposed Trails for the Quassaick Creek Greenway. Source: OLIN.

Master Plan and Implementation Strategy Goals

1 | Greenway Alignment

Advance the Greenway planning by confirming and revising alignment to overcome challenges and embrace opportunities.

2 | Ecological Potential

Assess ecological conditions and habitat priorities to recommend enhancements integrated with Greenway planning.

3 | Catalyst Project

Outline near-term actions and develop concepts for a Catalyst Project that will accomplish goals of access and equity, with potential for local stewardship.

4 | Champions and Partners

Convene champions to lead projects into the future by co-creating a compelling vision to support funding for implementation and stewardship.

5 | Community Aspirations

Align with local initiatives to leverage advocacy and capacity to implement the collective vision for the Quassaick Creek Greenway.

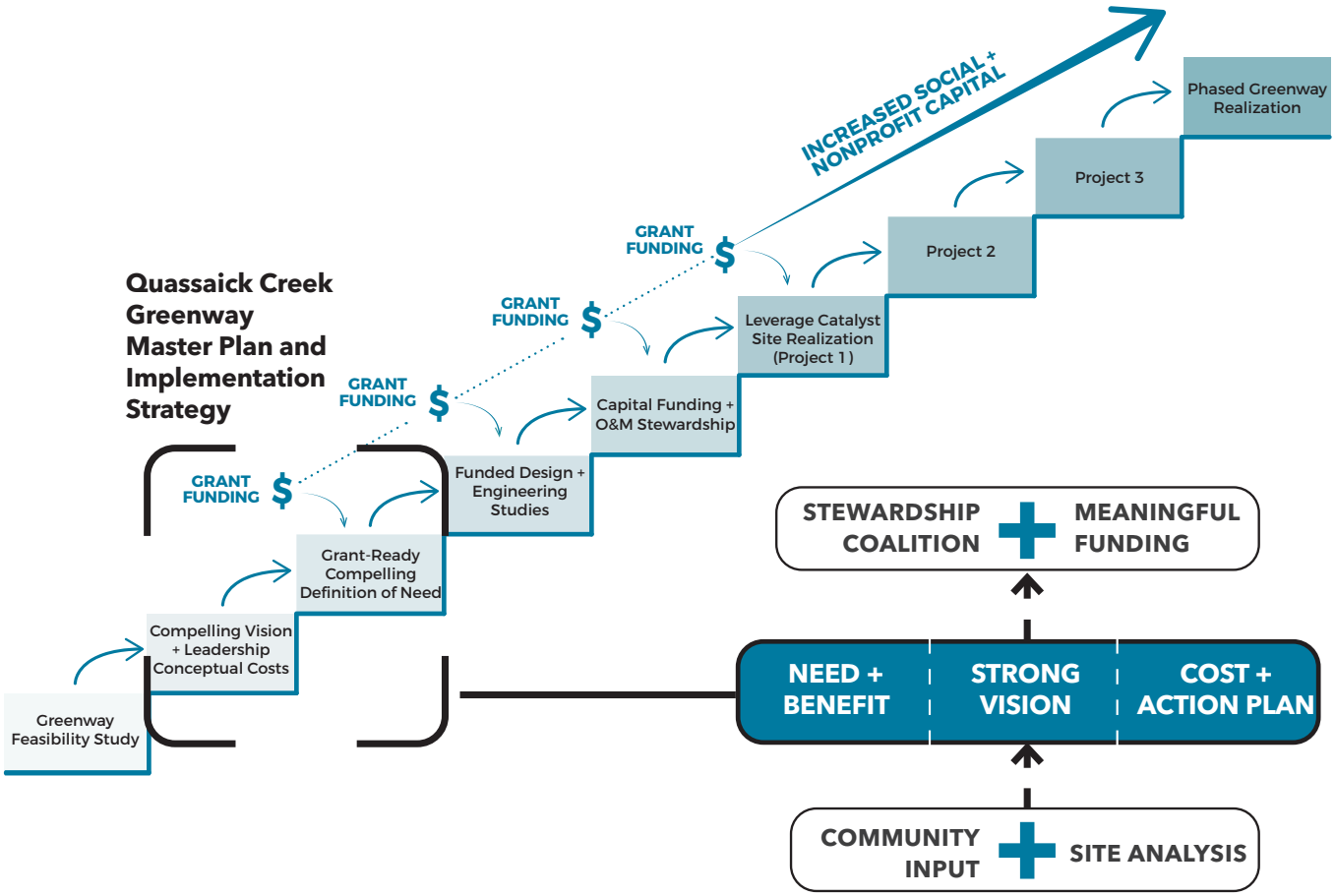


Figure 8. Steps to implementing the Greenway Source: OLIN.

CATALYST PROJECT

> The Catalyst Project is anticipated to activate underutilized space, improve ecological and environmental conditions, and enhance community uses in ways that drive investment in the rest of the Greenway.

A Catalyst Project and three additional areas of opportunity have been identified as near term actions. The Catalyst Project was selected as a location that can begin to fulfill the vision of the Quassaick Creek Greenway based upon property ownership, easement feasibility, and strategic connections as the beginning of the Greenway. The Opportunity Areas are also at strategic nodes but may need additional engagement with stakeholders or technical studies to advance; key enabling activities have been identified to drive further action along the creek.

THE LOWER GORGE TRAILS

The lower Quassaick Creek offers an idyllic forested setting that mixes immersive nature experiences, local history, and ongoing ecological restoration projects with potential trailheads at locations critical for community access. Greenway projects here would catalyze the main multi-use path in the City of Newburgh, enhance habitats, and expand access by connecting to New Windsor via new and historic bridges.

This site is identified as the primary Catalyst Project given long-standing plans by the City of Newburgh to create recreational access to the creek and the receptivity of local landowners in giving back to the local community. Efforts to secure public access agreements in tandem with utility infrastructure development are well underway.

The site includes existing access roads that enable minimal disturbance for installation of a greenway while connecting to some of the largest sections of forested and meadow areas in the creek corridor. Access from the community is envisioned at several key points, including Mill Street Bridge, South Middle School path, along Water Street, and along Walsh Avenue west of River Road via a new bridge crossing. The main trunk of the Greenway trail lines the north bank of the creek, connecting to a meadow loop, proposed nature classroom, and wooded walk along an existing easement. Ultimately, integrating safe pedestrian access across Water Street/River Road at the Quassaick Creek outfall will enable safe connections between the creek and parks along the Hudson River.

Figure 9. Conceptual rendering of the Quassaick Creek Greenway Lower Gorge Trails. Source: OLIN.

CATALYST PROJECT

BY THE NUMBERS

- 1.8 Miles of trail
- 4 Trailheads
- 1 Pedestrian street crossing
- 6 Acres of habitat restoration
- 45 Signs
- 25 Benches

Estimated Cost: $5.3M

Figure 10. Lower Gorge Trails Key Map. Source: OLIN.

ADDITIONAL OPPORTUNITY AREAS

DIAMOND CANDLE FACTORY

One of the most dramatic sites deep within the Quassaick Creek gorge, the former Diamond Candle Factory area offers a mix of industrial history and recovering habitat near potential access from both Newburgh and New Windsor.

Environmental remediation is first required to make the site safe for recreational use. Beginning the process of funding the cleanup will enable future expansion of the Greenway to include this unique park area that can catalyze further investments.

Figure 12. Diamond Candle Key Map. Source: OLIN.

Figure 11. Conceptual rendering of the Quassaick Creek Greenway Diamond Candle Factory Trail. Source: OLIN.

LAKE STREET HEALTH TRAIL

Near Lake Street, a bustling commercial corridor in Newburgh, the Greenway trail can include amenities aimed at promoting physical and mental health along with improvements for biodiversity, including a walking loop trail with native meadows, a rain garden, nature play structures, and places to sit along the creek. Greenway projects here can connect Delano Hitch Park, Newburgh's neighborhoods, and future complete street improvements along Lake Street and Broadway.

Figure 14. Lake Street Health Trail Key Map. Source: OLIN.

Figure 13. Conceptual rendering of the Quassaick Creek Greenway Lake Street Health Trail Source: OLIN.

ADDITIONAL OPPORTUNITY AREAS

SNAKE HILL CONNECTIONS

Existing trails at Snake Hill Preserve offer unique access to unfragmented forest in Newburgh and New Windsor with sweeping views of the river and Hudson Highlands. Expanded trail access and community programming near Crystal Lake would enhance access to water in the corridor and the biodiversity found at Snake Hill Preserve. Here, the Greenway can offer improved access to existing and community uses at the Sanctuary Healing Gardens, uphill hiking trails to the Snake Hill summit, and a popular recreational fishing site.

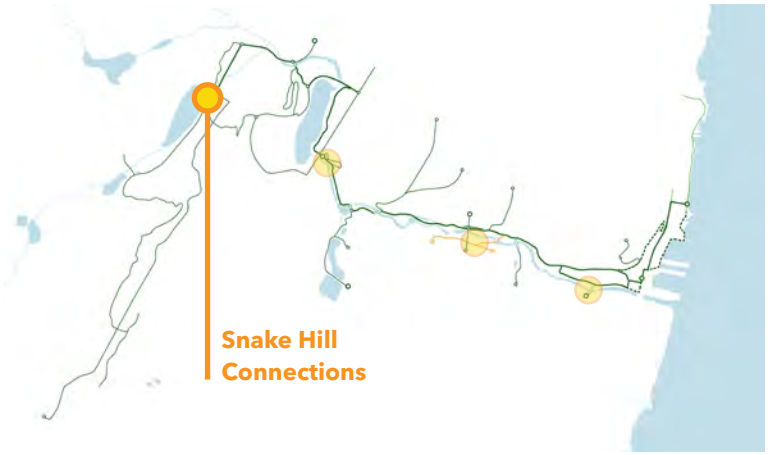


Figure 16. Snake Hill Connections Key Map. Source: OLIN.

Figure 15. Conceptual rendering of the Quassaick Creek Greenway Snake Hill Connections at Crystal Lake Trailhead. Source: OLIN.

THE REPORT

This Master Plan and Implementation Strategy Report that follows outlines the access, trail alignments, and unique destinations of the Quassaick Creek Greenway. Opportunities, challenges, and partnerships provide a roadmap for implementation. Ultimately the Catalyst Project is anticipated to be the first activation of the Greenway and a proof-of-concept for continued development through the corridor, starting at the Hudson River and continuing to Snake Hill Preserve.

The report is organized around the following chapters:

Chapter 2 | Existing Conditions reorients the geology, hydrology, built environment, environmental conditions, and community access around the opportunities for implementing the Greenway.

Chapter 3 | Ecological Potential summarizes the findings of the Natural Resources and Biodiversity Inventory conducted by Hudsonia and pairs with ecological preservation and restoration opportunities and recommendations aligned with the Greenway planning and implementation.

Chapter 4 | Community Engagement demonstrates the process of awareness building and Catalyst Project selection with community members, local organizations, key stakeholders, and the Steering Committee that took place throughout the planning process.

Chapter 5 | Master Plan and Implementation Strategy outlines a refined trail alignment and potential trailheads and Catalyst Projects based upon evaluations conducted with the Steering Committee and other stakeholders.

Chapter 6 | Catalyst Project and Opportunity Sites summarizes the conceptual design, partnerships, and implementation considerations for the Catalyst Project at the Lower Gorge Trails. Additional Opportunity Sites are also documented given their potential readiness and benefit at important locations along the Greenway.

Supporting documents containing further detail are included as appendices.

THE QUASSAICK CREEK GREENWAY MASTER PLAN
BY THE NUMBERS

Over 500 acres within the study area

Over 300 acres of contiguous tree canopy

6 Parks connected by the trail

12 Miles of trail

9 Primary trailheads with parking

17 Additional trailheads

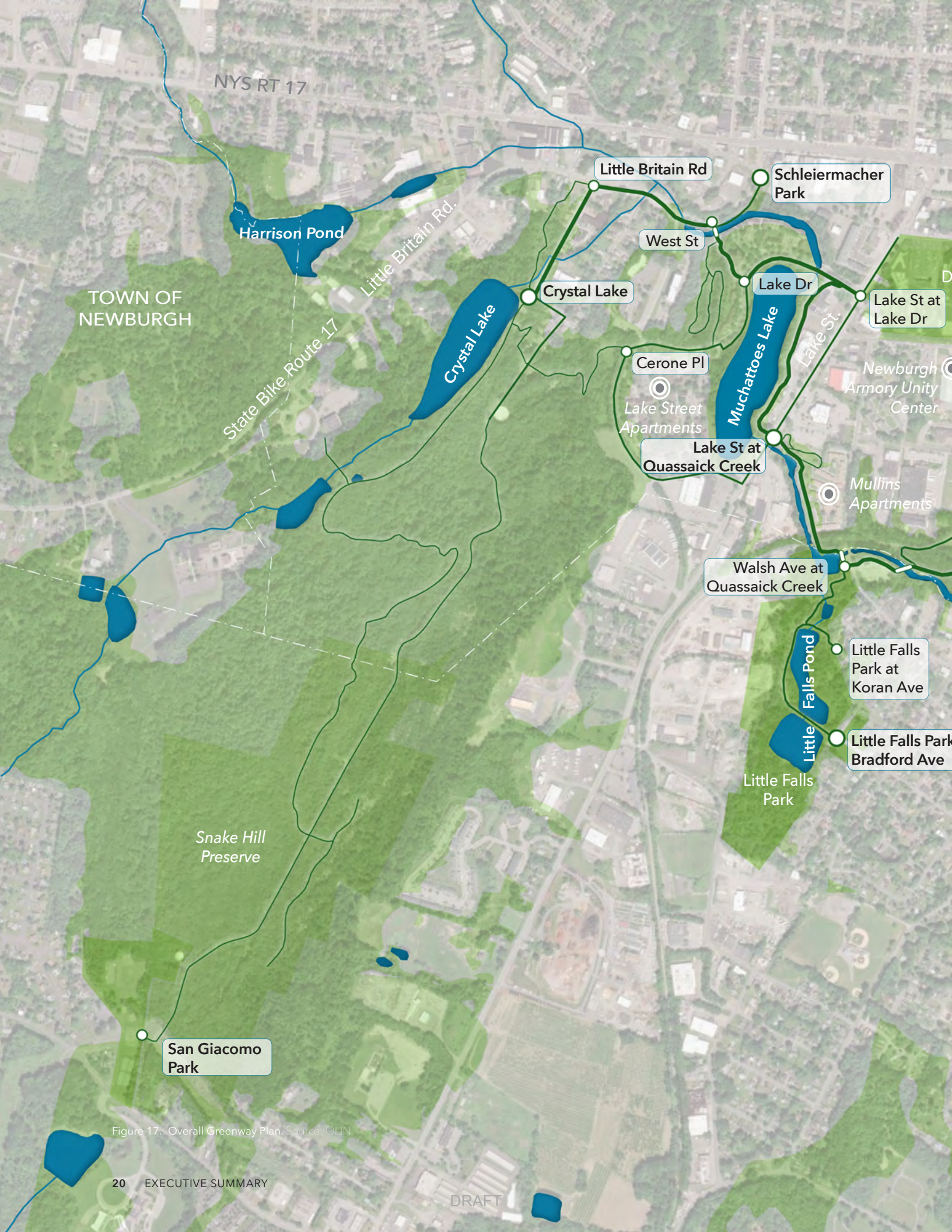


Figure 17. Overall Greenway Plan. Source: OLIN


Broadway
Newburgh Beacon Bridge
Newburgh City Hall
elano-Hitch Park
Washington's Headquarters
CITY OF NEWBURGH
Delano Hitch Park / South William Street
Mill St.
Liberty St.
Water St.
Dickson St East
Overlook Pl
South Middle School
Mill St Bridge Crossing
Mill St Bridge Stair / Ramp
Ward Brothers Memorial Rowing Park
John St
Bay View Terrace
Twin Arch Bridge
Columbus St / Diamond Candle Factory
HUDSON RIVER
Water Street
Upper Walsh Ave
Lower Walsh Ave
Calvary Cemetery
RT. 9W
TOWN OF NEW WINDSOR
MAP LEGEND
Trailhead
Entrance
Primary Multi-use Path
Secondary Multi-use Path
Pedestrian Only Path
Alternative Alignment
Reconstructed Bridge
Proposed Bridge
Rail
Local Destinations
Parks / Tree Canopy
400
2000 FT
200
1000

2 | EXISTING CONDITIONS

Figure 18 Quassaick Creek near Diamond Candle Factory

The Quassaick Creek has played a critical role in the life of the City of Newburgh, the Town of New Windsor, and the region through the centuries. Existing conditions of the creek corridor reveal a landscape of industrial remnants, aging infrastructure, thriving and degraded habitats, and informal community uses linking uplands to the Hudson River.

THE QUASSAICK CREEK CORRIDOR

This land is thought to have been originally part of the traditional lands of the Waoranek or Esopus, with European settlements recorded since the 1700s. It is part of Lenapehoking–the ancestral home of the Lenape people–which extends from modern-day Delaware to the Catskill Mountains.

Encompassing approximately 56 square miles of watershed area in Ulster and Orange Counties, and several lakes, the Quassaick Creek reaches inland 18 miles from the Hudson River and has been a focus of ecological restoration and environmental recovery efforts due to extensive industrial use and pollution.

The lower 2.5 miles of the creek flows through small artificial lakes and a wooded corridor and marks the boundary between the City of Newburgh and Town of New Windsor. The urban core of the watershed has been a primary focus of decades of activism, advocacy, and restoration action by the Quassaick Creek Watershed Alliance.

This reach supported industrial operations from the 19th century through today. With over 18 industries formerly within a one-mile stretch and 11 dams along its length, the creek's degradation spurred environmental advocacy and legal actions that launched Riverkeeper's efforts on Hudson River tributaries throughout the region. Today, most of the industries are no longer operating, and a dam removal initiative is underway.

The final half-mile of the creek, identified as the Catalyst Project area, flows within a deep gorge and below several bridges including the Mill Street Bridge and the historic Twin Arch Bridge. Steeped in local history, this section of the creek corridor offers immersion in the beauty of the creek and connection between the urban fabric and the Hudson River.

> Primary challenges to the Greenway include steep topography, a patchwork of land ownership, transportation corridors, utilities and aged infrastructure, environmental liabilities, and varied flood conditions.
>
> Among these challenges is a recovering landscape of immense ecological potential within reach of communities in need of access to natural spaces, connectivity, and recreation.

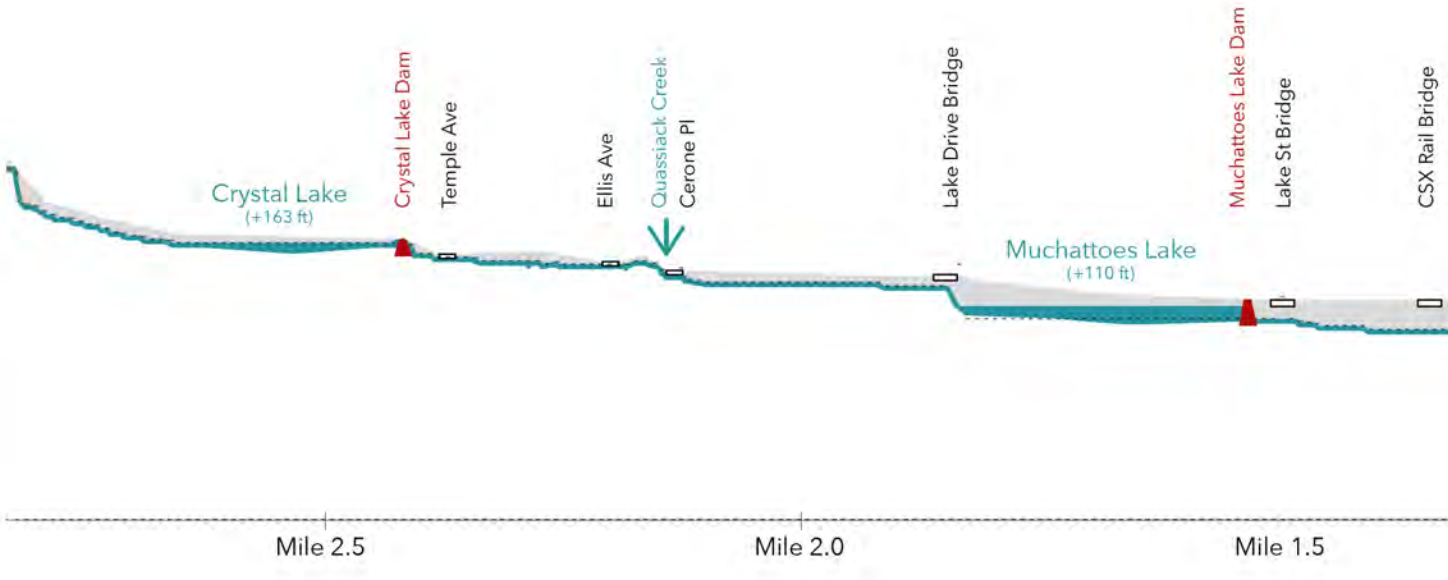
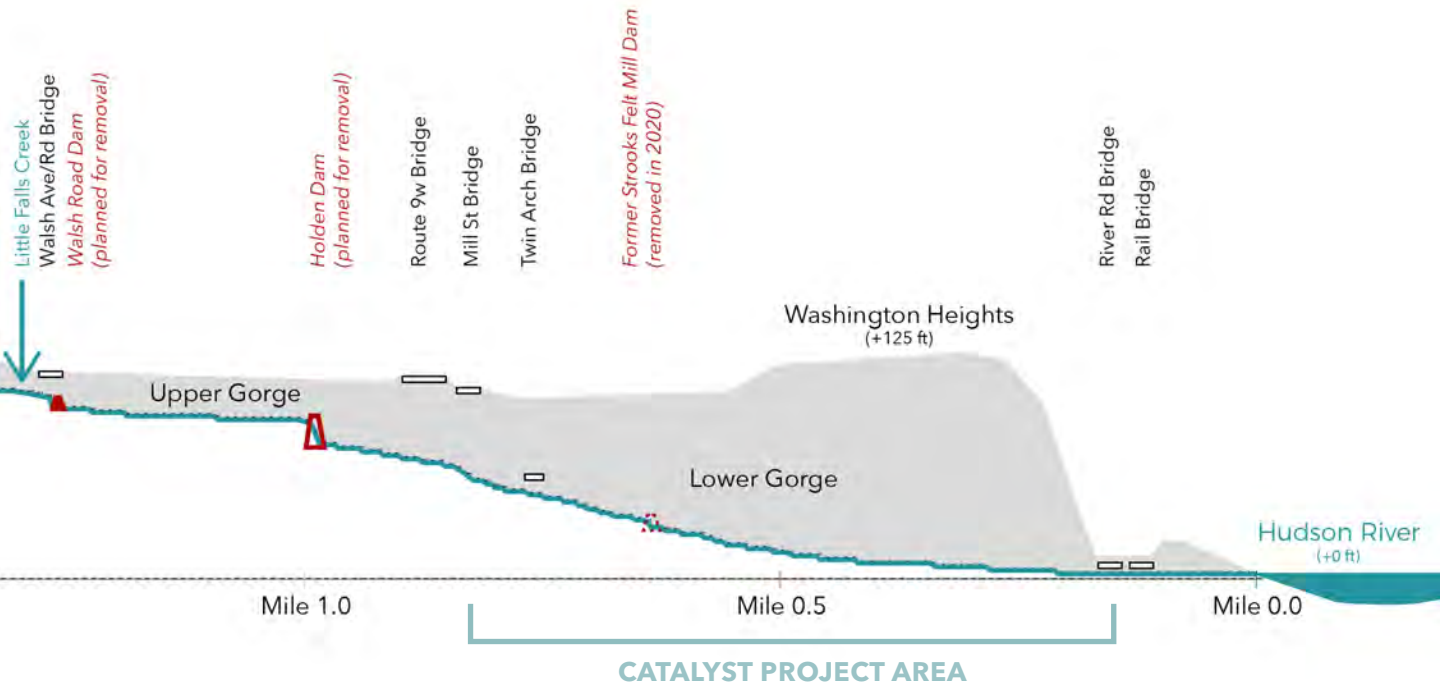


Figure 19. Section of the Quassaick Creek from Crystal Lake to the Hudson River. Source: OLIN.

Figure 20. The Quassaick Creek corridor features bridges, industrial relics, constructed ponds, natural ares, and scenic overlooks. Source: OLIN.



HYDROLOGY

> Creek-oriented recreation is an untapped resource for the communities of the region; however, existing stream conditions pose challenges to the incremental implementation of new projects.

The lower Quassaick Creek receives channel flows from the upper watershed as well as runoff from surrounding developed land, stormwater outfalls, and tidal influences of the Hudson River. The following summarizes key hydrologic findings; further detail can be found in the Appendix: Ecological Assessment.

Water Quality and Stream Health

The lower Quassaick Creek is currently classified by the New York State Department of Environmental Conservation (DEC) as a Class C Waterbody, which is suitable for fishing and non-contact activities such as boating, but is not suitable for drinking or swimming. The creek runs through medium- to high-density areas that are 50% to 100% developed. The high level of development has resulted in numerous water quality impairments, including pollutants such as chemicals, oils, and heavy metals, and and combined sewer overflows.

Impervious developed areas adjacent to the Quassaick Creek also increase and concentrate stormwater runoff, bringing with it the threat of flooding as well as increased erosion and scouring. The runoff is also warmer as the rainfall absorbs heat from paved surfaces. All these factors contribute to degraded water quality and ecosystems along the creek.

A total of 11 dams and other barriers have been cataloged by state and federal governments along the lower Quassaick Creek from Muchattoes Lake to the confluence with the Hudson River, causing additional water quality and ecosystem impacts. Crystal Lake, Muchattoes Lake, and Little Falls Pond also face water quality issues, including contamination, sedimentation, invasive species, and aging infrastructure. These constructed ponds have the potential to negatively impact the Quassaick Creek or contribute to its remediation, depending on management.

Figure 21. Eroded banks of the Quassaick Creek adjacent to an active industrial use. Source: OLIN.

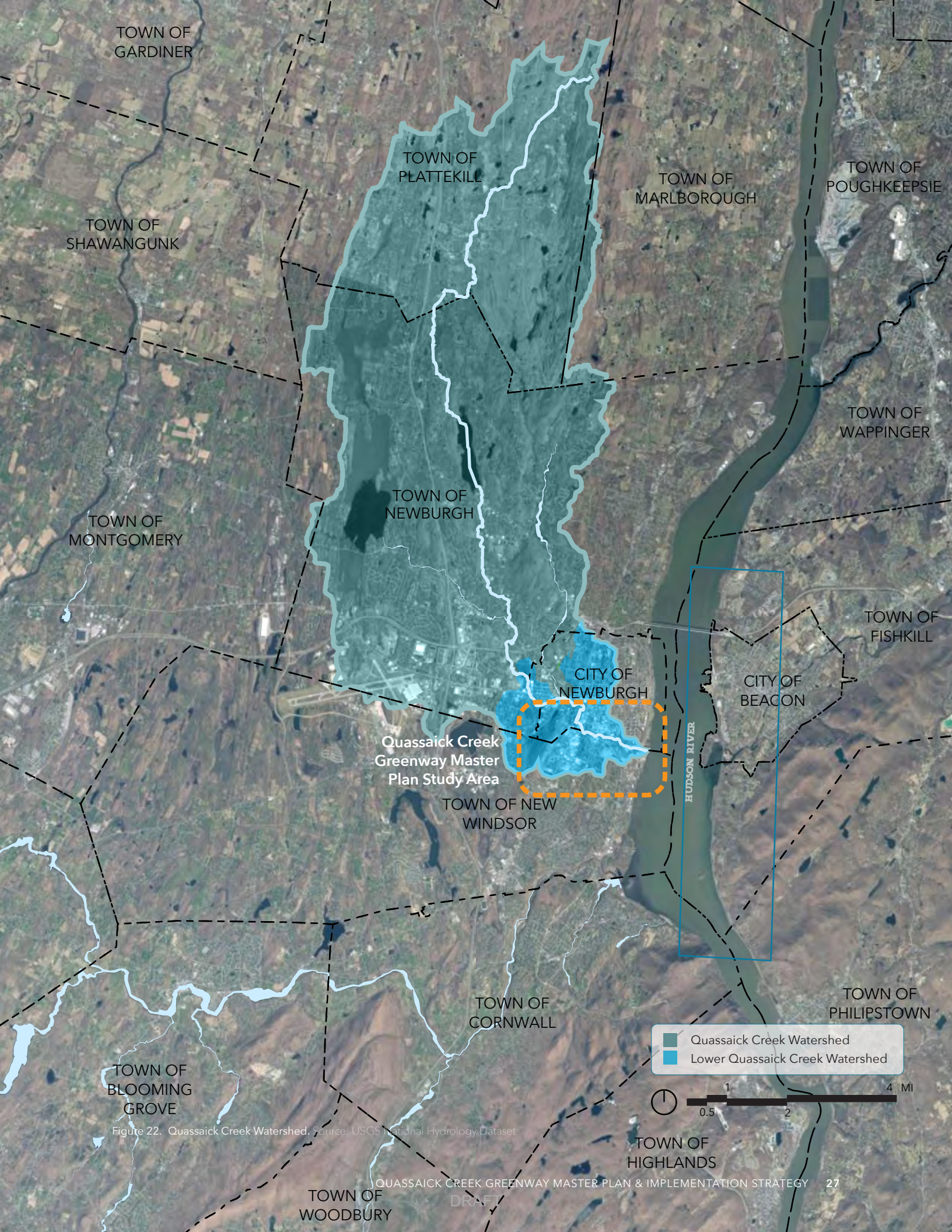


Figure 22. Quassaick Creek Watershed. Source: USGS National Hydrology Dataset

IMPROVING CREEK HEALTH

Improving the creek's health will require removing industrial pollutants, stabilizing streambanks, enhancing stormwater filtration, and actively engaging the community in stewardship efforts. Currently, the City of Newburgh is undertaking a 15-year Long-Term Control Plan to improve sewer capture rates and reduce combined sewer overflows to the Hudson River.

In 2020, Riverkeeper facilitated the removal of the Strooks Felt Dam to restore aquatic habitats and reduce sediment buildup along the creek. Plans and permitting are in process for the removal of Walsh Road Dam and Holden Dam. Dam removal includes realignment of the streambed, which is not only important for the creek's ecologic function but also critical to protect Newburgh's sewer infrastructure that has been impacted by scouring during storms. There are also numerous community based initiatives, such as the Quassaick Creek Watershed Alliance's riparian planting projects along the creek as part of New York State Department of Environmental Conservation's "Trees for Tribs" program and the Greater Newburgh Parks Conservancy's Planting Power Newburgh initiative.

Further water quality improvements in the Quassaick Creek may be achieved through:

- Remediating contaminated properties within the creek corridor and prevent further input of chemical pollutants into the creek.
- Using riparian buffer zones and streambank stabilization to filter stormwater and reduce erosion, with in-stream structures to reduce scour and increase aeration.
- Improving water quality in the lakes by removing refuse and deteriorating infrastructure, eradicating invasive species, closing off any potential sources of sewage, and conducting dredging to remove contaminated sediments.
- Implementing long-term measures such as establishing native species, including shoreline plants and subaquatic vegetation, to stabilize embankments and provide natural filtration; active management of rail lines within the watershed to mitigate stormwater flows, sedimentation, and industrial contamination; and community engagement and education programs to encourage ongoing stewardship of the lakes, wetlands, and terrestrial areas.

Flooding

Flood conditions of the Quassaick Creek are critical to consider both for the ecological health of the stream corridor as well as safety of nearby residents. In many cases the floodplain has been developed or modified, cutting off this important expansion zone for flood waters and the habitats that floodplains support. Importantly, the Newburgh Housing Authority's Mullins Courtyard Apartments are located in a flood zone with a 1% chance of flooding every year, just downstream of Muchattoes Lake, and surrounded by infrastructure that constricts flows and increases the impacts of flooding. Development of the Greenway will integrate measures to address both aspects of flooding: reconnecting the creek with a healthy floodplain that can store floodwaters where space allows, and implementing protections where residents or development are at risk.

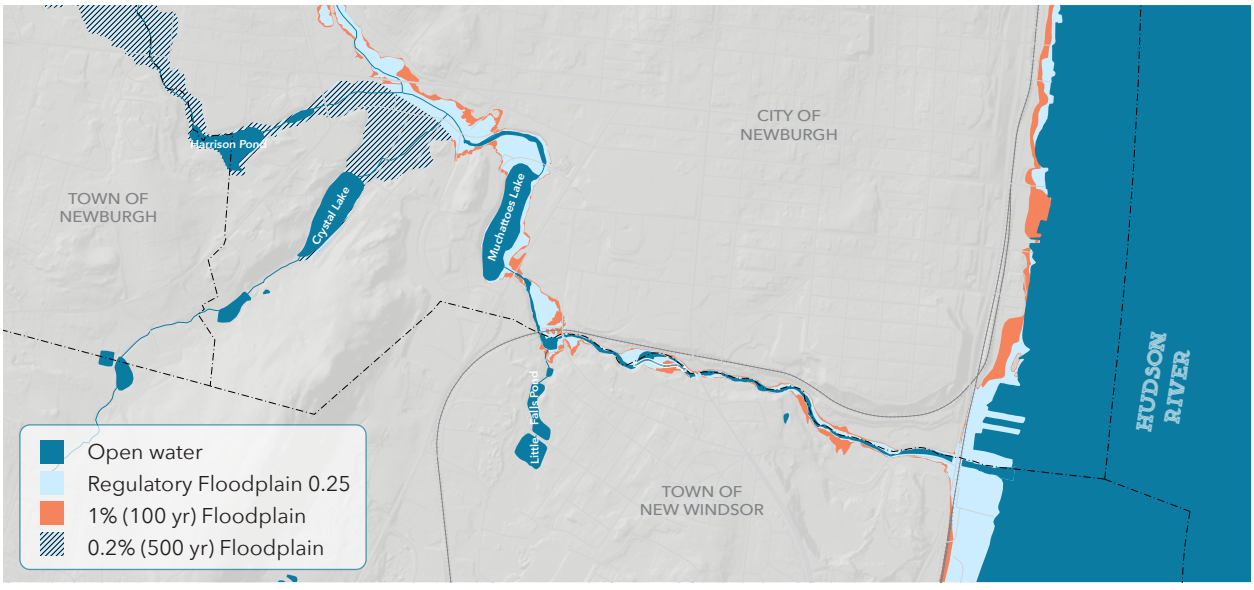


Figure 23. FEMA Flood Zones. Source: FEMA.

GEOGRAPHIC FEATURES

The Quassaick Creek falls 150 feet in elevation over its last two miles from the confluence with Crystal Lake to its outfall at the Hudson River. The creek has taken form through a combination of glaciation and erosion. Underlying bedrock geology from west to east includes Limestone (OCw), Graywacke (Oag), and Alluvium (Q)/ melange (Otm), with surficial geology predominantly made up of recent glacial till. The resulting steep topography adjacent to certain portions of the creek, while dynamic, has hidden the creek from the view of surrounding neighborhoods and served as a physical and perceptual barrier to access.

In addition to geologic forces, the creek and its floodplain have been further shaped by subsequent human interventions such infilled floodplains, hardened edges, and the construction of bridges and dams for industrial uses.

> The shape of the creek valley shifts dramatically from the outfall at the Hudson River where it cuts through the bedrock geology as a steep gorge, becoming more gentle as it moves inland and opens up at the impoundments of Crystal Lake, Muchattoes Lake, and Little Falls Pond.

Figure 24. Crystal Lake. Source: OLIN.

Figure 26. Quassaick Creek near Diamond Candle Factory. Source: OLIN.

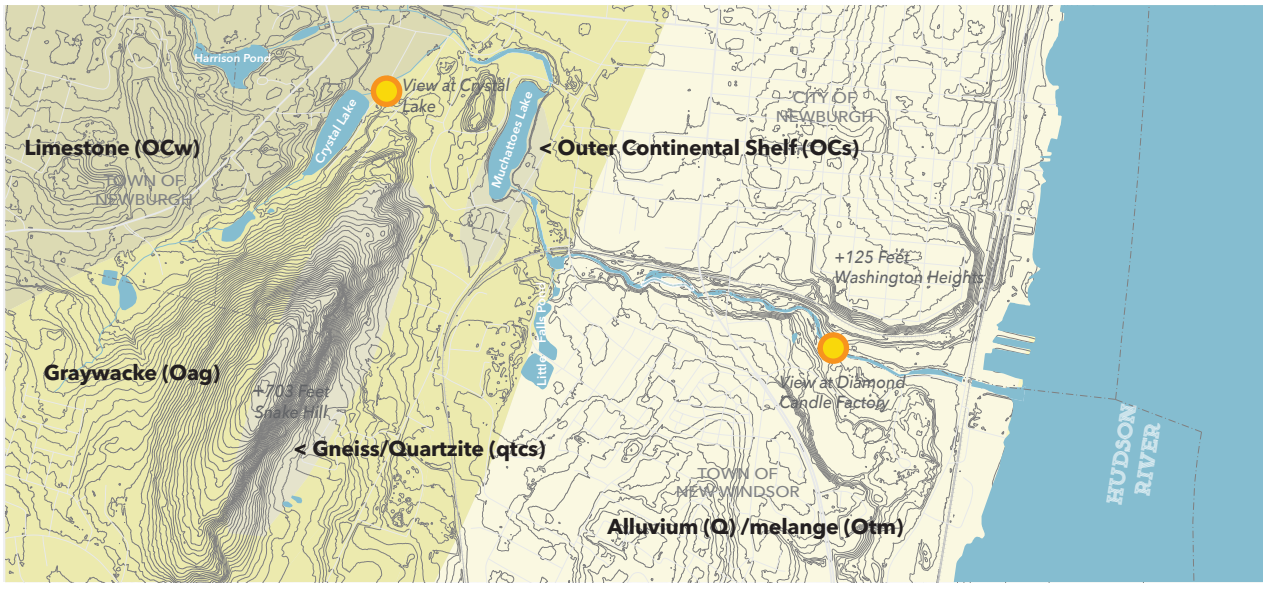


Figure 25. Bedrock Geology overlaid with 10 foot contours. Source: NYS GIS Clearinghouse.

BUILT ENVIRONMENT

Infrastructure Networks

The Quassaick Creek riparian corridor, including swaths of forest, meadow, and wetlands, is a verdant conduit bringing habitats and ecological services into the heart of the City of Newburgh and Town of New Windsor. Crisscrossing the corridor are several bridged roadways. These have the benefit of linking the Greenway into neighborhoods, especially with future improvements for multi-modal travel and safety. However, bridges also may constrict creek flows and trap debris, creating the need for increased maintenance, such as with often-clogged openings at Twin Arch Bridge.

The CSX rail spurs that parallel the creek to the north are infrequently used but continue to pose a challenge to access, as crossing the rail lines would require complex access agreements. The railroad under pass at Walsh Ave provides connection to north and south sides of the Greenway but poses challenges to support multi-modal use due to its narrow width.

Newburgh also maintains several sewer lines along the north side of the creek. Recently, sewer infrastructure has been threatened by erosion and scouring, resulting in a partnership between the City and Riverkeeper in the removal of the Holden Dam and restoration of the creek channel in a way that will protect the utilities. A public access easement was also coupled with a sewer easement further downstream in anticipation of the Greenway, indicating public use easements as a primary tool in securing Greenway access.

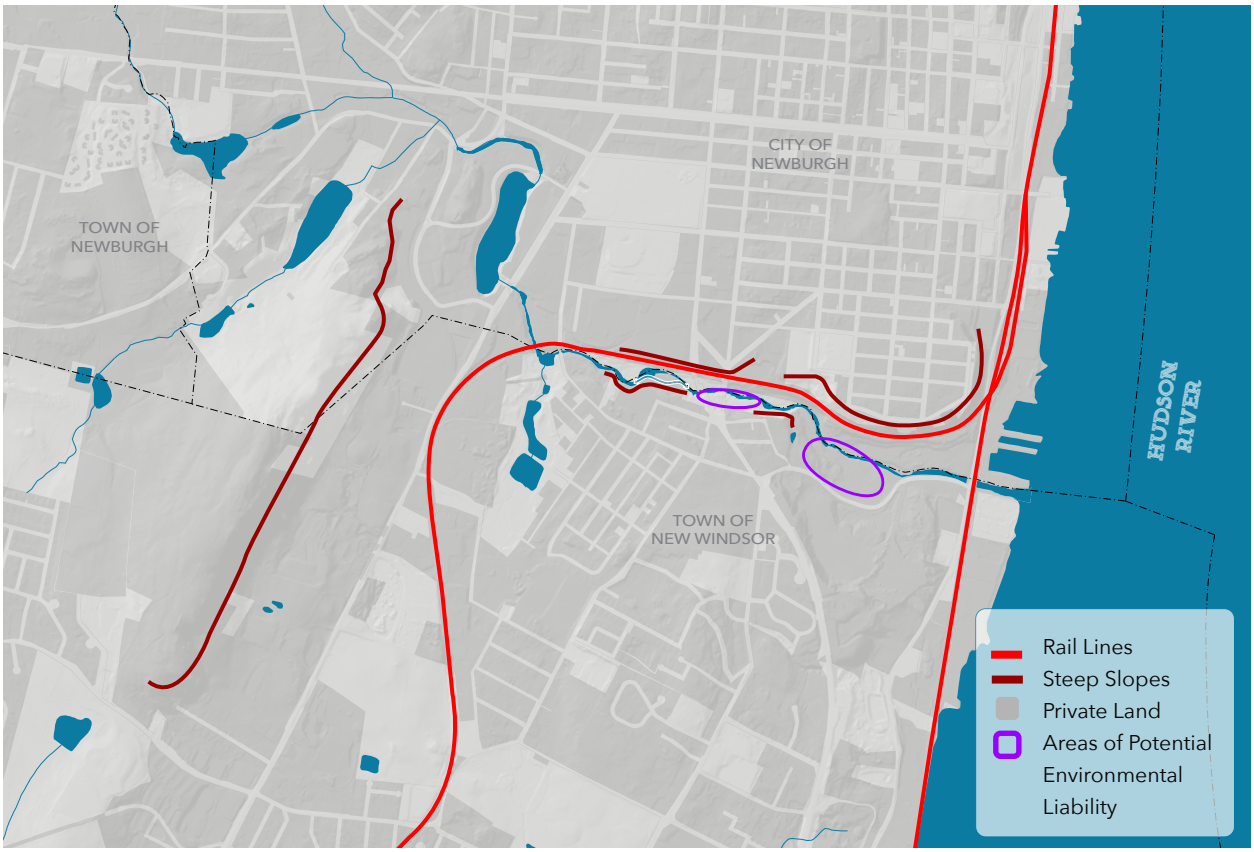


Figure 27. Barriers to creek access: rail lines, steep slopes, and legacy industrial areas with potential environmental liability. Source: OLIN.

Land Use

Surrounding land is developed with a mix of commercial, industrial, and residential uses. The density of Newburgh is about twice that of the Town of New Windsor.

Ownership of land along the creek corridor consists of a patchwork of private and public parcels, which is one of the biggest challenges to the implementation of a continuous creek-side Greenway. A variety of land control mechanisms will be necessary to link segments together and may include access agreements, access and conservation easements, simple purchase, ownership, and management agreements, all from willing landowners. Agreements and coordination will also be necessary between the City, Town, and County where ideal alignments for the Greenway cross boundaries and often share infrastructure within all three jurisdictions.

In addition to the complexity of land control types, the timelines of settling agreements are likely to vary widely as well. The implementation of the Greenway will be informed by the legal and geopolitical opportunity timelines and landowner interest, in addition to the funding streams and approvals processes that are typical of public development projects.

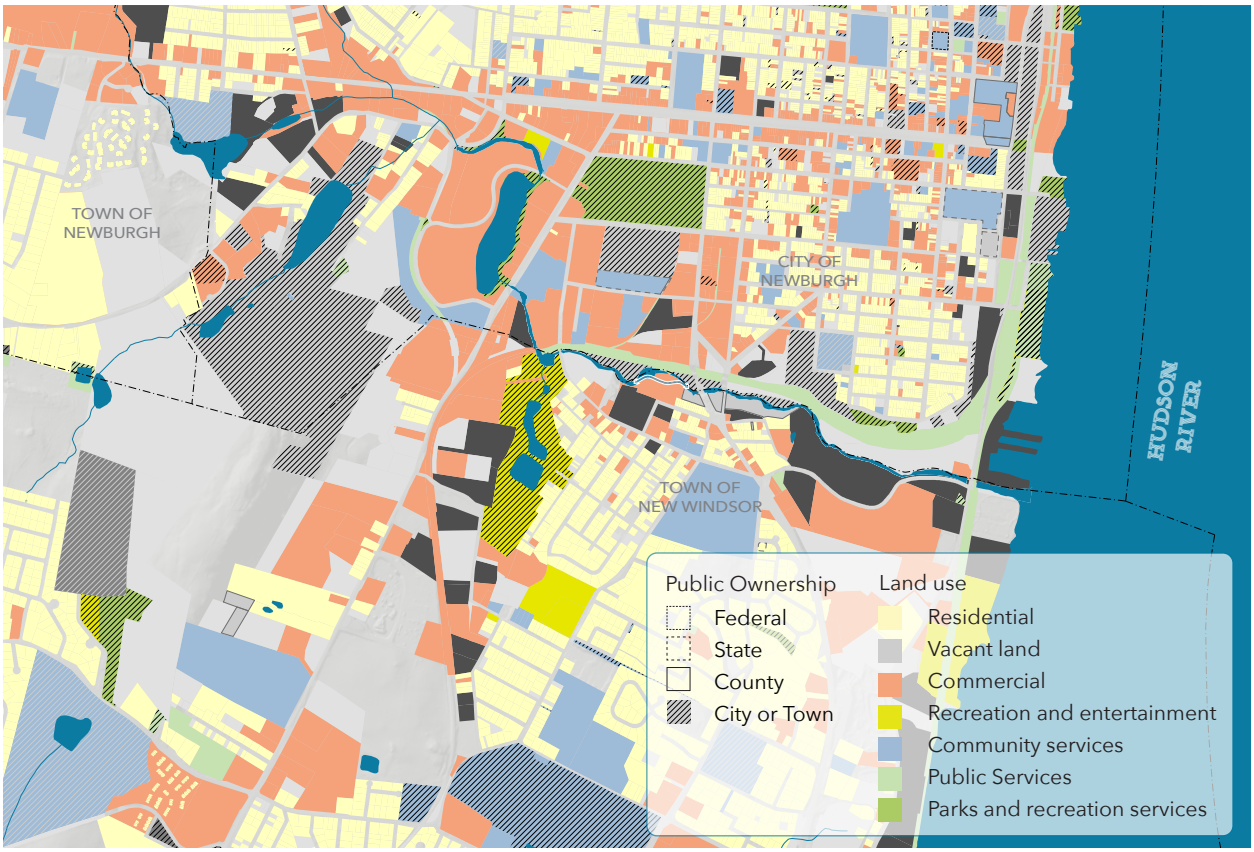


Figure 28. Public Land ownership and land use. Source: NYS GIS Clearinghouse.

ENVIRONMENTAL CONDITIONS

Over a dozen industrial mills and operations were located along the creek in the 19th and 20th century, using the water for power as well as a waste conduit. Industries mainly consisted of textile, paper, and grain mills, as well as tanneries, bleacheries, and iron foundries. Some industrial sites had been adapted from their original uses to other industries. Rail lines along the creek also served industries in the area and beyond.

These former uses have left environmental liabilities and challenging site conditions at some of the most alluring places to visit along the creek. At the same time, remnants of historic uses offer opportunities to learn about Newburgh's industrious past, labor communities, and contributions to our nation's history.

> Today, a few industrial and light industrial facilities remain in the creek corridor. Many others remain vacant with uncertain futures, creating an opportunity to negotiate easements and agreements for Greenway access.

A desktop database review was conducted during the 2023 Feasibility Study, indicating widespread potential for contaminated locations along the creek. Recommendations included conducting Phase 1 and Phase 2 Environmental Site Assessments as individual sites and trail segments are developed.

Due to ongoing land agreement negotiations and the early phases of concept development, this recommendation remains; more focused environmental investigations will be pursued as part of the due diligence for development of each segment.

The historic character, nearby registered historic district, and potential presence of archeological precontact resources will also require coordination with the State Office of Historic Preservation for greenway development permitting.

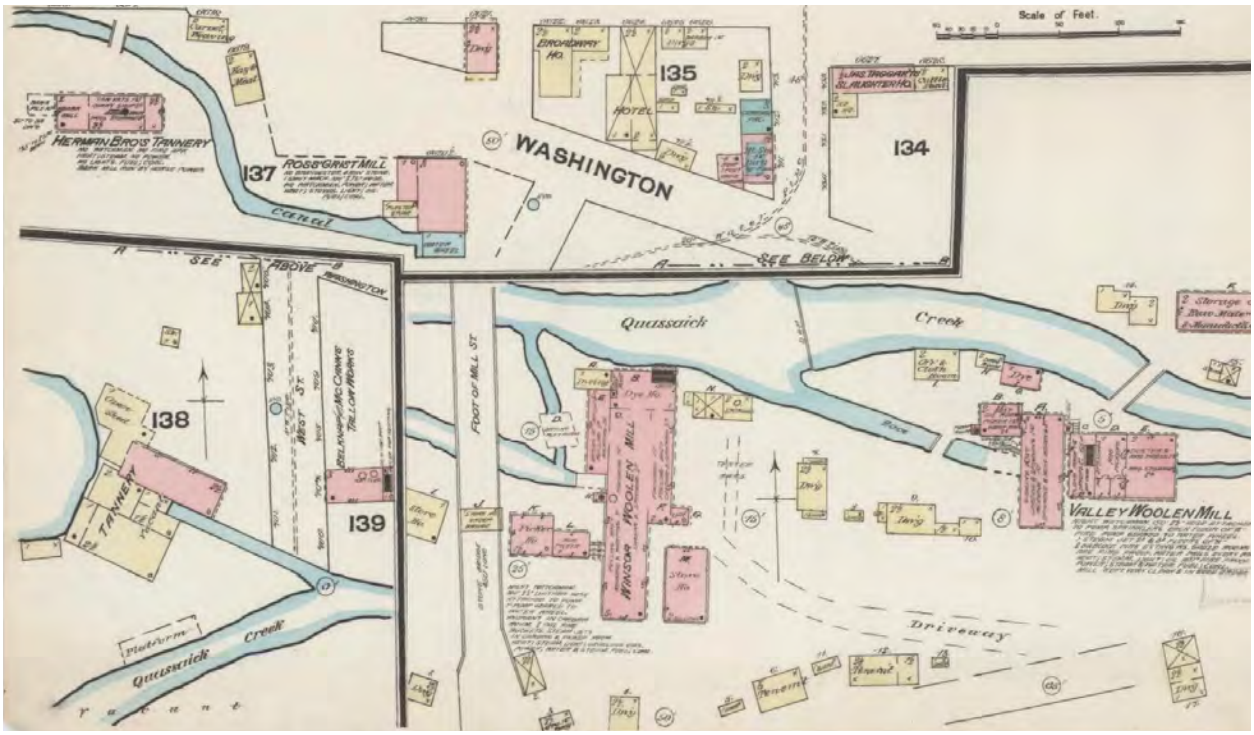


Figure 29. Sanborn Fire Insurance Map showing Valley Woolen Mill at Diamond Candle Factory site, 1884. Source: Library of Congress, https://www.loc.gov/item/sanborn06119_001/.

Figure 30. Remnants of ongoing and past industrial activities throughout the Quassaick Creek corridor. Source: OLIN.

PUBLIC HEALTH

> Over 30,000 people live within a 1-mile walk of the proposed Quassaick Creek Greenway trail system. Over 5,000 people live within just a 1/4 mile.

Ongoing initiatives seek to restore nature and human connection to the recovering creek corridor. This ever-changing landscape sets the stage for envisioning the Quassaick Creek as a future gem—a corridor weaving through City and Town, accessibly connecting neighborhoods with parks and seamlessly integrating natural beauty with cultural significance.

Greenways and Health

Residents have a keen interest in improvements to natural open spaces for numerous reasons. In urban areas, those with limited access to open space disproportionately suffer from chronic conditions such as asthma, obesity, and heart disease. A health equity report by the New York State Department of Health identifies, for example, that Newburgh residents die prematurely at almost twice the state or county average. Town of New Windsor residents fare better but still die at a slightly higher rate than the state or county average. While natural open spaces will not solve all problems, open space improvements may have an outsized improvement of negative health outcomes if the Greenway brings convenient connectivity and access to residents. The potential benefits align to expressed resident desires: in the Town of New Windsor, over 40% of respondents to a survey conducted as part of a Comprehensive Plan Update in 2021 expressed that sidewalks and pedestrian safety should be a town priority; nearly 50% identified parks and recreation as a desired priority and point of strength for the municipality.

Multiyear projects have grounded greenways in clinically significant benefits, notably the Louisville Green Heart Project, which documented reduced inflammation in residents living near green areas and a 2014 Greenville, South Carolina study identifying that trail users were half as likely to suffer from obesity, a precursor to other chronic inflammation diseases.

Public Space and Unhoused Residents

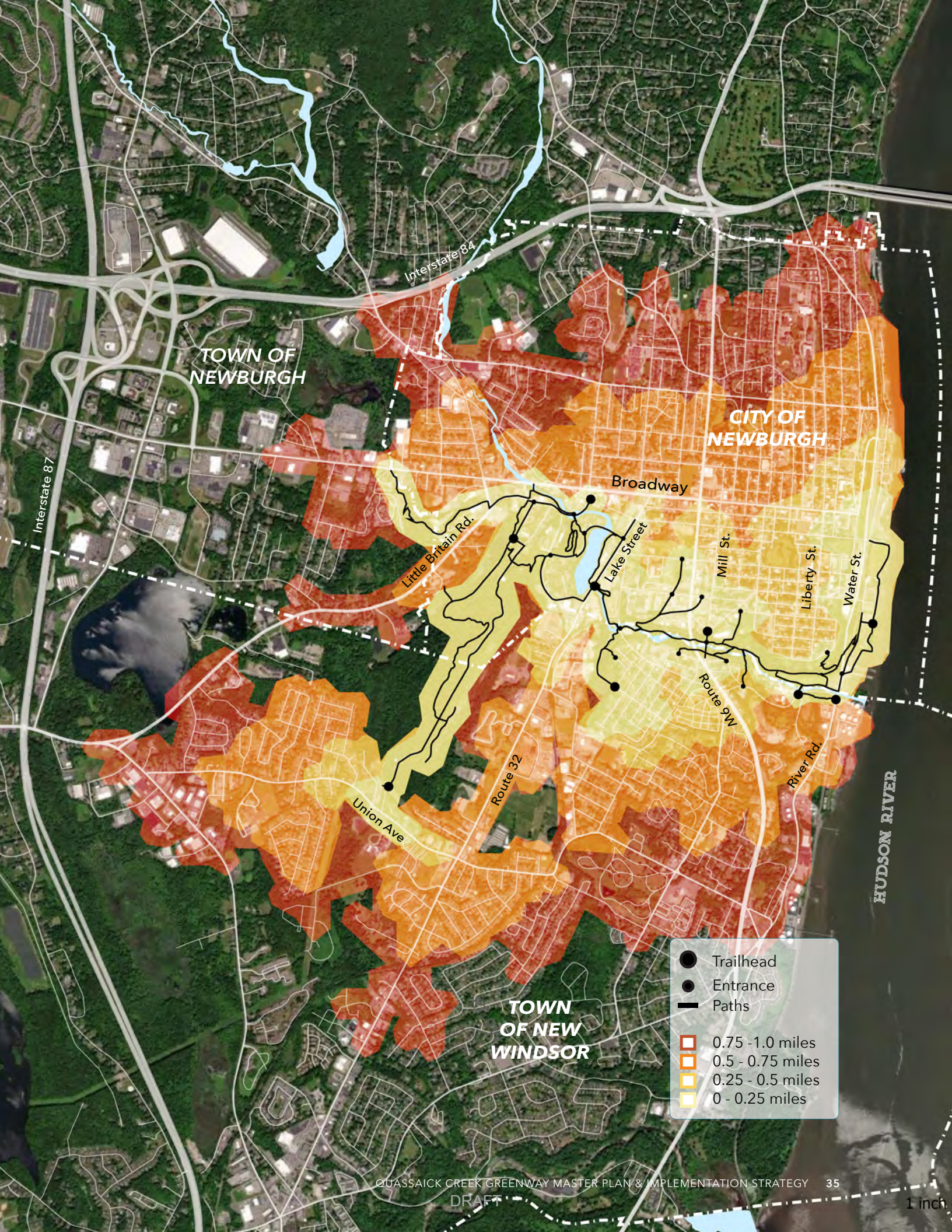
The Quassaick Creek corridor is a place of last resort for people experiencing homelessness and unmanaged addictions, compromising safety and public health for the individuals and the greater community.

The thorny questions involving this public health and wellbeing crisis are admittedly difficult to address, especially for underresourced cities. Solutions such as improved housing opportunities, active management of park space, and programs to treat addiction and minimize litter from drug use are an ongoing struggle across the country. The short-term solutions require resources for engagement, safety monitoring, and providing resources for those experiencing these struggles.

Research from organizations such as the National Recreation and Park Association (NRPA) and the Centers for Disease Control and Prevention (CDC) show that active stewardship greatly improves greenway safety and social integration. Citizen involvement and a sense of user ownership enhance natural surveillance and discourage misuse, while structured programs such as greenway "ambassadors" or volunteer programming promote safe use, regular maintenance, and community engagement.

Stewardship not only improves safety but also offers touchpoints for linking users, particularly vulnerable populations, to relevant services and resources. For example, in the City of Poughkeepsie, Scenic Hudson and Hudson River Housing are working with cross-sector partners to promote safety and access to public parks facing similar challenges to the lands around the Quassaick Creek. Through hiring and training local stewards to care for public open spaces and support the dynamic needs of people who use them, the Poughkeepsie Park Stewardship Program aims to establish a coordinated, positive community presence to proactively improve use of neighborhood public spaces. Programs inviting families and youth to use the park, connections to local support services, and training in harm reduction techniques are key strategies that may offer valuable lessons to stewardship planning within the Quassaick Creek corridor.

Figure 31. Walkability analysis for the proposed Quassaick Creek Greenway. Source: OLIN, based on data from Scenic Hudson.


Interstate 84
TOWN OF NEWBURGH
CITY OF NEWBURGH
Interstate 87
Broadway
Little Britain Rd.
Lake Street
Mill St.
Liberty St.
Water St.
Route 9W
River Rd.
Route 32
Union Ave
HUDSON RIVER
TOWN OF NEW WINDSOR
Trailhead
Entrance
Paths
0.75 -1.0 miles
0.5 - 0.75 miles
0.25 - 0.5 miles
0 - 0.25 miles
1 inch

Quassaick Creek Greenway Timeline

1800s 2000s

Vale of Avoca

The Quassaick Creek empties into the Hudson River at the Vale of Avoca, a popular walking and picnicking glade.

1900s

1920s - 1940s **Swimming Beaches in Newburgh and New Windsor**

Crystal Lake and the Hudson River were popular recreation destinations for locals and visitors.

1950s - 1970s **Industrialization and Urbanization**

Industrial activity increased. Newburgh's growth and modernization brought infrastructure improvements, which supported economic and population expansion. During this time, waterfronts increasingly became industrial and urban hubs, limiting recreational access as priorities shifted toward supporting the area's economic needs.

1958 **Urban Renewal Projects in Newburgh**

Over 1,100 homes and businesses were demolished, and over 50 acres of neighborhoods were cleared. Residents, including many black residents, were displaced from their homes. While some areas awaited redevelopment, community dynamics shifted, and access to traditional gathering spots diminished.

1990s **Quassaick Creek Coalition Forms**

A group of advocates came together with the goal of developing an estuary preserve in this lower corridor. Ultimately, efforts to create the estuary preserve and trail were thwarted due primarily to issues relating to access through private properties.

2001 **City of Newburgh Local Waterfront Revitalization Program (LWRP)**

New York State Department of State and City of Newburgh established policies for managing the local waterfront revitalization area and proposed land and water uses for the entire waterfront area.

2002 **Quassaick Creek Estuary Preserve & Trail: Master Plan and Interpretive Planning Framework**

Community-led efforts by Quassaick Creek Coalition and City of Newburgh to establish the Quassaick Creek corridor as a linear park and trail.

2004 **Biodiversity Survey and Natural Resources Inventory and Assessment**

A yearlong biodiversity survey for preserving, restoring and improving the natural environment along the Quassaick Creek resulted in J.G. Barbour's report, which delisted Bald Eagle as endangered species.

2007 **Quassaick Creek Trail Feasibility Study**

Preparation of a Phase 1 Trail Feasibility Study by NY-NJ Trail Conference focusing on lower Quassaick Creek gorge between the Hudson River and Mill Street Bridge.

● Public Realm Initiatives and Efforts

● Environmental Studies and Cleanups

2010s 2020s

2013 **Orange County Greenway Compact**

A voluntary regional planning vision developed by Orange County in partnership among with its local communities and the Hudson River Valley Greenway Communities Council.

2014 **Quassaick Creek Watershed Management Plan**

Aimed at heightening public awareness of the Quassaick Creek, the plan authored by the Quassaick Creek Watershed Alliance, Department of State, and Orange County recommends strategies for enhancing the watershed, with a focus on water quality protection.

Newburgh Habitat Summary

Recommendations by New York State Department of Environmental Conservation for habitat restoration in the City of Newburgh.

2015 **Reclaiming Newburgh's Other Waterfront**

A planning primer for the Quassaick Creek Corridor by the Quassaick Creek Watershed Alliance.

2016 **City of Newburgh Hudson River Waterfront Trail**

City of Newburgh creates a Waterfront Trail along the Hudson River, extending from the Newburgh boat launch to the Newburgh Rowing Club.

Orange County Complete Streets Handbook and Funding Toolkit

Resource encouraging recreational activities and improving pedestrian environments throughout Newburgh and Port Jervis.

2018 **Quassaick Creek Eel Counting**

A collective activity to catch, count, and release eels into better habitats, hosted by the Hudson River Eel Project, NYS Department of Conservation, and Hudson River National Estuarine Research Reserve.

2019 **Quassaick Creek Nature Study**

Educational institutions including Columbia's Graduate School of Architecture, Planning and Preservation (GSAPP), in partnership with community organizations, study and engage with the Creek to produce design proposals and recommendations for a recreational corridor.

2020 **Newburgh Bicycle Action Plan**

A study and action plan by Open Space Institute (OSI) and Orange County to connect and enhance bicycle paths.

Strooks Felt Dam Removal

In a landmark effort to restore migratory fish, Riverkeeper and DEC team up to remove dam to renewed spawning habitat on Quassaick Creek in Newburgh.

2021 **Tree Planting, Post Dam Restoration**

Facilitated by Riverkeeper and the Quassaick Creek Alliance, volunteers planted 50 trees as part of ongoing efforts to restore a healthy stream.

2022 **Tree Planting, Rewilding the Creek**

Community collaboration to plant 100 yearling native tree species and remove invasive ones. Organizations involved include Riverkeeper, DEC, and the Quassaick Creek Watershed Alliance.

2023 **The Orange County Bikeway Vision**

A plan to establish a separate, non-motorized transportation system throughout Orange County.

Quassaick Creek Greenway Feasibility Study

Feasibility study by Scenic Hudson with intent to provide clear guidelines for the development of a multi-jurisdictional public greenway.

2024 **Orange County Connector Trails Feasibility Study**

A Comprehensive Plan to create a robust trail system that facilitates walking and bicycling throughout Orange County.

2025 **City of Newburgh Hillside BOA Nomination Study**

Vision and action plan for the Hillside neighborhood's 147 acres of waterfront.

Quassaick Creek Greenway Implementation Strategy & Master Plan

A collaborative process to establish a foundation for aligning community goals with implementation capacity, proposing to advance both, a robust master plan, and an implementable plan.

3 | ECOLOGICAL POTENTIAL

Figure 32. Little Falls Pond. Source: eDesign Dynamics

A habitat assessment and biodiversity inventory identified opportunities to enhance the creek corridor's ecological health. The following summarizes the ecological assessment and enhancement toolkit. The full inventory and report are included as an appendix.

HABITAT ASSESSMENTS

Hudsonia performed a habitat and biodiversity inventory that identified 12 major habitat types, including several wetland habitats, upland forest, shrublands, meadows, constructed ponds, and developed cultural landscapes. Several species of local concern were identified along with many birds, amphibians, insects, bats, plants, and invasive species.

This site assessment for the Quassaick Creek Greenway Master Plan and Implementation Strategy drew upon Hudsonia's habitat inventory to document existing conditions and identify restoration opportunities. Key habitat categorizations include:

- **Waste Ground & Meadow Areas:** Gravelly clearings, dominated by invasive mugwort, with some native asters and brown-eyed Susan.
- **Forested Areas:** Predominantly invasive species, including Norway maple, black mulberry, Japanese knotweed, and black locust, indicating past disturbances. Overbrowsing by deer further impacts the understory.
- **Higher-Quality Forest Patches:** West of South Lander Street, the tree composition improves, with tuliptree, shagbark hickory, American sycamore, and white oak present.
- **Riparian & Creek Edge Conditions:** Banks vary from stone-filled gabions and armored edges near industrial sites to heavily eroded sections downstream of Muchattoes Dam. Dense Japanese knotweed dominates much of the creekside vegetation.
- **Wetland & Lake Areas:** Muchattoes Lake and constructed ponds contain some native wetland plants, such as swamp rose mallow, arrow arum, and buttonbush, though invasive common reed and cattail dominate pond edges.

Additionally, NYSDEC identifies several regulated wetlands within the study area and the Natural Resource Heritage program notes the presence of rare plants or animals.

Habitat Inventory Legend

- Streams
- Wet Meadow
- Hardwood & Shrub Swamp
- Intermittent Woodland Pool
- Marsh
- Stream
- Tidal Tributary Mouth
- Constructed Pond
- Gravely-Sandy Shore
- Rocky Barren
- Upland Hardwood Forest
- Upland Meadow
- Upland Shrubland
- Cultural
- Developed
- Waste Ground
- NYSDEC Wetlands

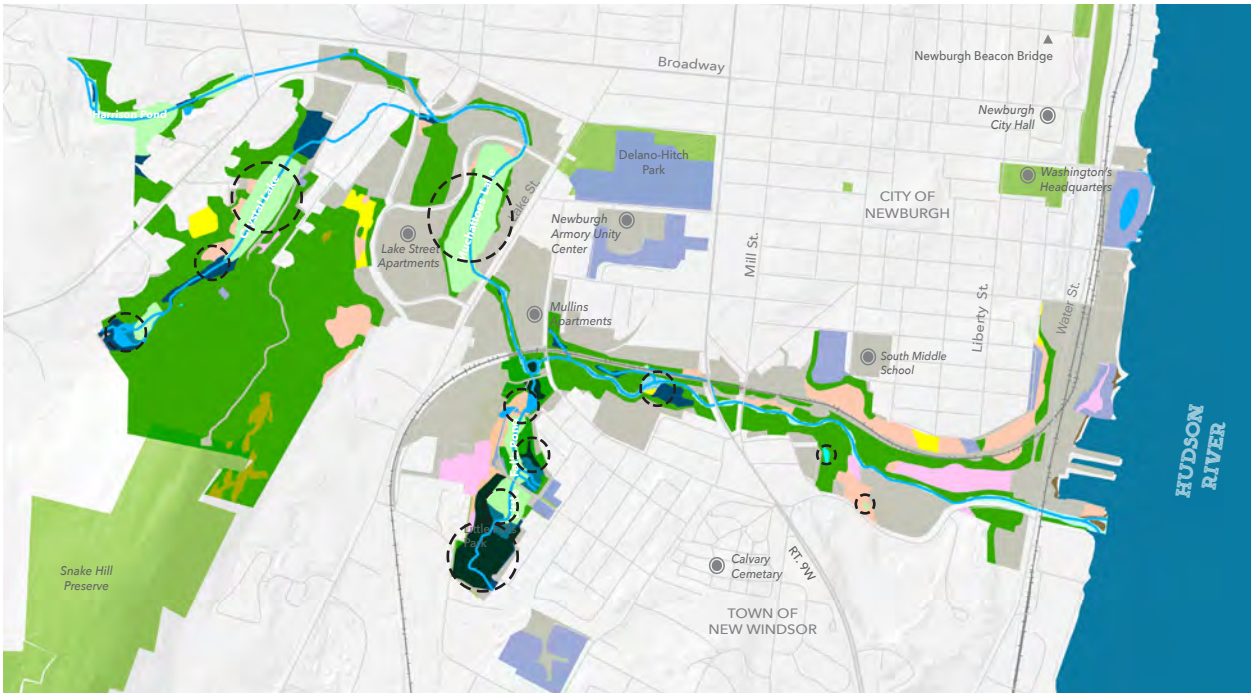


Figure 33. Habitat Inventory. Source: Hudsonia.
Wetland locations from NYSDEC Environmental Resource mapper https://gisservices.dec.ny.gov/gis/erm/

Packed into one small stretch, the ecological opportunity of the Quassaick Creek Greenway will bring an abundant and rich tapestry of ecological treasures within reach of local residents. Most of the "significant habitat types" as described by the DEC Wildlife and Habitat Conservation Framework can be found within the relatively small footprint of the Quassaick Creek site. These habitats include coastal habitats, tributaries and riparian habitats, wetlands, and unfragmented forest and habitat corridors.

Existing Restoration/Preservation Initiatives

The goals for the ecology and hydrology of the Quassaick Creek are positioned to directly contribute to many regional, state-wide, and federal initiatives focused on water quality, biodiversity, resilient communities, and environmental justice. Two such initiatives are particularly relevant to the Quassaick Creek Greenway: the ***Hudson River Estuary Program*** developed by NYDEC and the ***Hudson River Comprehensive Restoration Plan*** (Hudson River CRP). These programs may provide technical resources and funding for future efforts.

Figure 37. Greater yellowlegs. Source: Shutterstock.

Figure 38. Blue bunting. Source: Shutterstock.

Figure 36. Dutchman's breeches. Source: Shutterstock.

Figure 35. Indiana bat. Source: USFWS.

Figure 34. Images of various habitat along the creek. Source: OLIN.

RESTORATION STRATEGIES

Restoration strategies for the Quassaick Creek Greenway consider the unique opportunities and challenges of a corridor linked by hydrology and habitat types, but divided by property ownership, political boundaries, and infrastructure. The implementation of a restoration plan in such conditions focuses on incremental, project-specific and targeted strategies rather than a singular approach.

Project-specific ecological designs and corridor-wide targeted interventions should:

1 | FOCUS ON FUNCTION: Focus restoration efforts on ecological function and value, rather than restoring to a particular moment in time.

2 | PRESERVE FIRST: Delineate and preserve high value habitats, then invest in restoring lower value habitats.

3 | GUILDS NOT SPECIES: Target habitat preservation and enhancements for guilds of species rather than a single species.

4 | BE PRAGMATIC: Operate with pragmatism, over ideology, to ensure alignment with capital budgets, management capacity, and ultimate success of projects.

Impacts From Climate Change

Temperatures and sea level are predicted to rise more drastically in the Hudson Valley region than most of the United States and other parts of the world. These warmer temperatures and expanding water bodies are expected to have a dramatic effect on biodiversity, in both terrestrial and water habitats. Additionally, vector-born diseases transmitted by ticks, mosquitoes and fleas are expected to increase in range as well as seasonal periods of risk through the year.

In Orange County in particular, increased intensity of rainfall and storms coupled with more periods of drought pose concerns for water quality and pollution, as well as the stability of wetlands, streambanks, and other habitats. Invasive pest species are expected to increase while habitats that support rare and endangered species will become more vulnerable to damage and loss. Additionally, several wastewater treatment systems in Orange County are within the current 500-year floodplain. An increase in the frequency of severe storms and intense precipitation events will likely result in increased discharges of untreated sewage and stormwater, to the detriment of water quality.

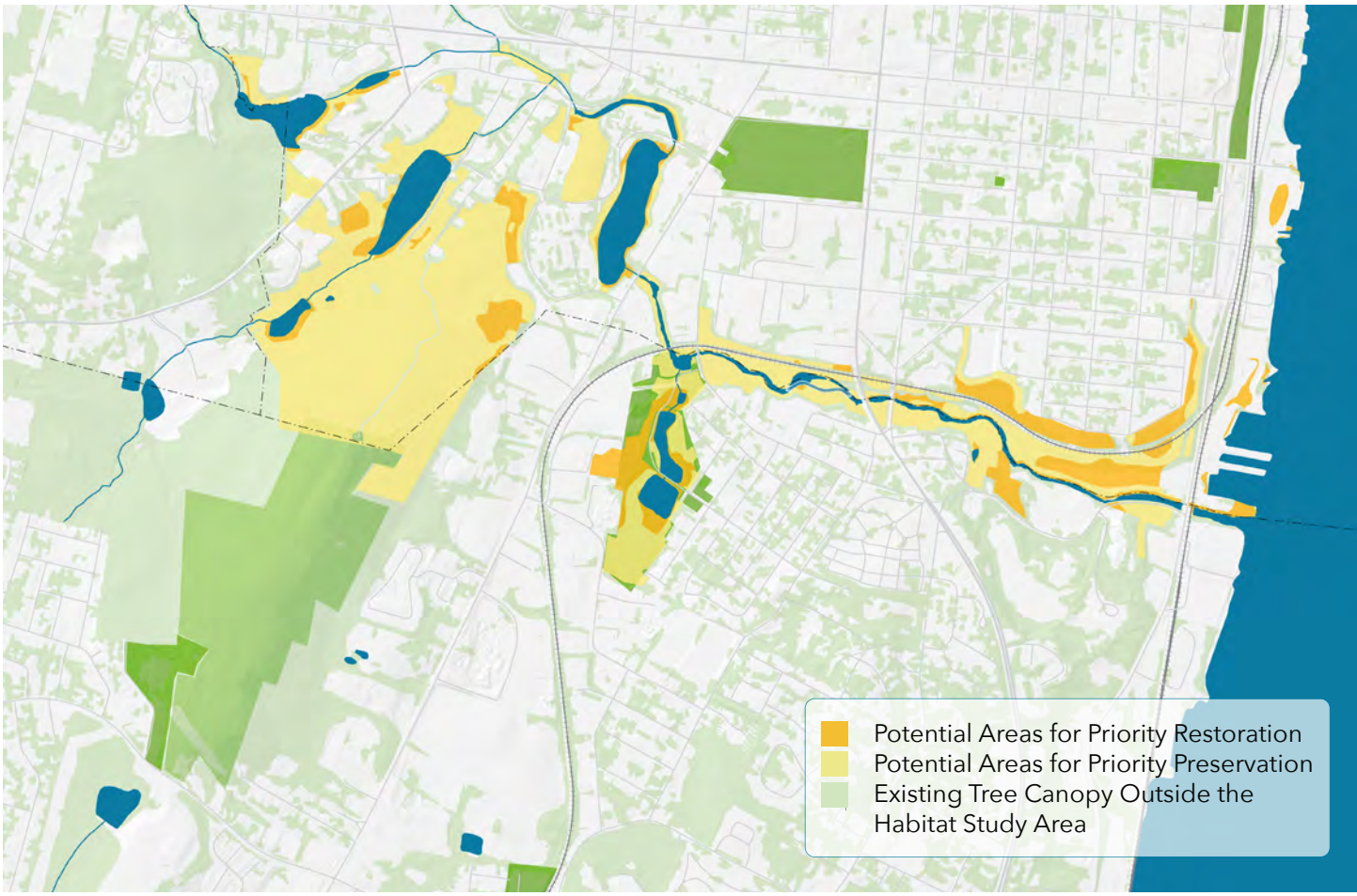


Figure 39. Preservation and Restoration Opportunities. Source: OLIN, Hudsonia.

While these riparian corridors and habitats are under threat from climate change, protecting and enhancing them are also ever more important to the health of our communities.

- **The biomass of plants and shade of trees help cool urban environments, improve water quality, and improve air quality by capturing particulates and reducing heat-causing ozone.**
- **Access to natural recreation areas are shown to improve health outcomes such as reduction of obesity, heart health, improved asthma rates, mental health, and general sense of wellbeing.**
- **Common recreation spaces bolsters community social resilience and cohesion.**

ECOLOGICAL ENHANCEMENT APPROACH

The repeated typologies and conditions throughout the corridor suggest a toolkit restoration approach with various interventions to enhance the Quassaick Creek and its adjacent lands, targeting habitat enhancement and improved site access. Hudsonia's report also suggests many small-scale management approaches to preserve and enhance habitat quality and function of the creek while creating Greenway access. Together, the recommendations are classified into a two-part toolkit that can be applied depending on the level of investment, intervention, and capacity at each location and in alignment with the site-specific opportunity.

> There are two main ways to strengthen the ecology of the creek: 1) Using low-impact management over time while protecting important habitat areas from development, and 2) Investing in bigger restoration projects that improve habitat.

MANAGEMENT TOOLS

1 | Remove Invasive Plants

Use mechanical (such as repeated mowing during growing season) and/or other means of non-chemical treatment to remove and manage spread of invasive species.

2 | Mowing Schedule

Mow annually or biennially to maintain existing wet meadow areas.

3 | Maintain Buffers

Work with landowners to preserve select unmowed areas around Little Falls Pond.

4 | Woody Debris/Snags

Preserve snags within the streambed as habitat for animals and their food organisms, and preserve large downed trees or logs where possible to promote nutrient enrichment of soil.

ENHANCEMENT TOOLS

5 | Plant Native Plants

Preserve native vegetation, remove invasive exotics, and plant more diverse native species in their place.

6 | Create Creek Habitat

Strategically placed structures enhance fluvial geomorphology without needing to change the boundaries of the creek itself.

- Thalweg: a deeper, meandering channel that runs along the creek bottom, promoting habitat for fish during drier periods and reducing sediment erosion with the appropriate placement of boulders along the thalweg.
- Pools: deeper pockets maintained through a scouring pattern that are advantageous to fish and other aquatic life.
- Riffles: turbulent waters created by a stony uneven creek bed that oxygenates the water.

7 | Reconnect Floodplains

Where room exists, reconnecting a floodplain to the creek can improve the stream's hydrology, enhance adjacent habitats, and mitigate flooding.

8 | Connect Disconnected Habitats

Support habitat connectivity and wildlife transience between adjacent marshes and between swamp and adjacent uplands and wetlands. Where applicable, plant/seed native woodland understory species.

9 | Flood Mitigation / Stormwater Storage

Increase storage capacity to reduce flash flooding and improve creek water quality. Bank stabilization may also be necessary where outfalls discharge into the stream corridor.

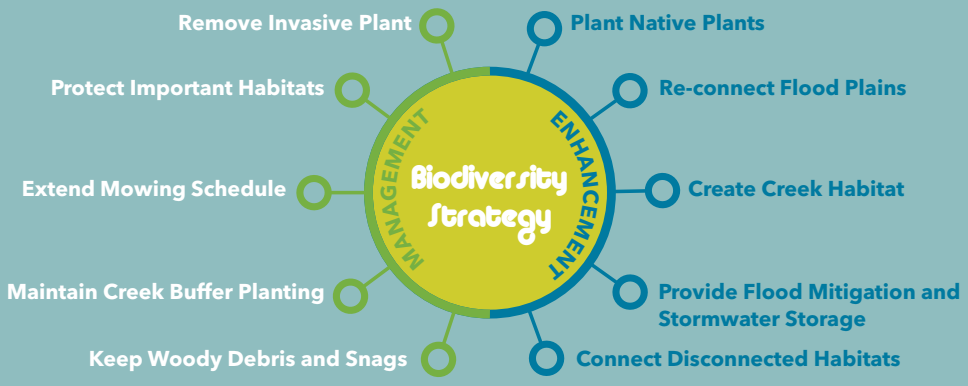


Figure 40. Native species planting. Source: eDesign Dynamics.

Figure 41. Notch weir flood control. Source: eDesign Dynamics.

Figure 42. In-creek habitat enhancement - pools and riffles. Source: eDesign Dynamics.

Figure 43. In-creek habitat enhancement - J-hook. Source: eDesign Dynamics.

Figure 44. Reconnected floodplain. Source: eDesign Dynamics.

FURTHER INVESTIGATIONS

Coordinating Designs

As projects are developed further, more detailed assessments and synthesis with designs should be undertaken to avoid disturbance of areas designated for preservation as follows:

- **Design to minimize direct disturbance**: Clearly designate areas for preservation and review trail alignment and associated elements along with construction staging to avoid disturbance.

- **Design with foundations of ecology:** Avoid disturbance of preservation areas' specific soil, hydrology, and light regimes (especially if clearing tall trees or structures).

- **Design to minimize sediment loading from construction activities:** Maintain buffers and vegetation where possible and employ erosion and sediment control measures such as sediment fencing, grading, straw cover, and overseeding.

- **Determine impacts to species sensitive to human activities within specific preservation areas**: Avoid areas with sensitive species as much as possible; ranges and characteristics of species sensitivity and it will be important to understand the particular needs of each species identified.

Site Habitat Value / Floristic Quality Assessment (FQA)

An FQA may also be conducted for each preservation area or project area to gain additional information on specific values of plants within a habitat. This assessment provides a detailed value to be used as a decision making tool for determining the best level of restoration investment aligned with both budget capacity and likelihood of success. This was not conducted on the corridor as a whole given the uncertainty of restoration timelines; it will be more useful to conduct as opportunities and investments are aligned at specific sites.

Coordinating with Dam Removals

Riverkeeper is advocating for removing several dams along the Quassaick Creek to improve habitat, safety, and water quality. Removal of two dams, the Holden dam and the Walsh Avenue dam, are underway or in planning. These projects are ideal for leveraging momentum to integrate community access and should be considered as future greenway planning proceeds.

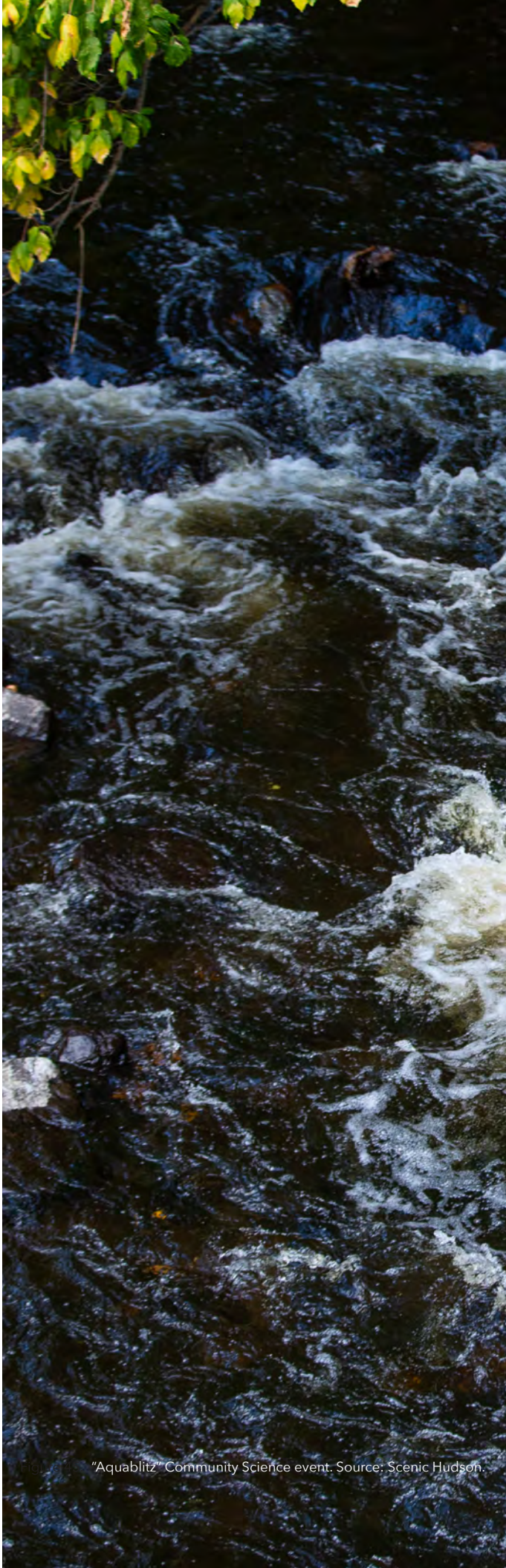


Image 6: "Aquablitz" Community Science event. Source: Scenic Hudson.

4 | COMMUNITY ENGAGEMENT

Figure 46. Creekfest. Source: OLIN.

Continued collaboration with stakeholders, local government, property owners, and community groups is critical to the realization of the Quassaick Creek Greenway. The following summarizes the engagement process and outcomes; a full summary of engagement meetings is included as an appendix.

Engagement Goals

The Master Plan and Implementation Strategy refines the Greenway trail alignment and advances a Catalyst Project through more directed dialogues with the Steering Committee, local government representatives, and key private property owners, along with community-wide engagement sessions.

The following goals guided consultation and engagement with all concerned individuals and groups:

1 | Raise Awareness

Develop broad public awareness about the Quassaick Creek and its potential and benefits.

2 | Refine the Plan

Review and refine the body of shared knowledge developed during the feasibility study with the larger community. Develop and further refine access and programming opportunities for the Greenway.

3 | Identify Catalyst Projects

Understand which areas of the creek corridor are most relevant to community life and desirable for access in the near term. Work with community groups to evaluate which sites would have the broadest stewardship support.

4 | Cultivate Partners

Work with stakeholders to identify implementation partners and cultivate broad community and local agency ownership.

5 | Agency Support

Engage in working sessions with local agencies to facilitate upland and cross jurisdictional connections.

6 | Local Culture

Learn, acknowledge, and reflect the cultures and histories of the people and places in the plan-making process.

7 | Language Justice

Provide all materials in Spanish and English and include interpretors and language justice experts at in-person events to facilitate inclusive engagement for the Spanish speaking population in the Newburgh region (approximately 43% of Newburgh residents, 19% of New Windsor residents, and 17% of Orange County residents speak Spanish at home, according to the US Census Bureau 2023 5-yr American Community Survey).

Figure 47. Mapping exercise to identify opportunities and challenges to implementing the Greenway along the creek. Source: MUD Workshop.

ENGAGEMENT PARTICIPANTS

There is a longstanding network of organizations, community members, and government agencies that have been working on improvements to the Quassaick Creek and greenways in the region. The Quassaick Creek Greenway Steering Committee represents a cross section of these groups and have served in various capacities on related initiatives and studies.

Alongside many community members, the following entities were thought partners throughout the development of this plan:

Government Agencies and Representatives	Community and Not-for-Profit Organizations	
Orange County	Quassaick Creek Watershed Alliance	Ecological Citizen's Project
City of Newburgh	Newburgh Wants A Park Campaign	Outdoor Promise
Town of New Windsor	Sanctuary Healing Garden	Greater Newburgh Parks Conservancy
Newburgh Housing Authority	Newburgh Waterways Center	Newburgh Clean Water Project
Newburgh Clean Water Project	Riverkeeper	Boys & Girls Club of Newburgh
	Orange County Land Trust	Environmental Justice Fellows
	NY-NJ Trail Conference	Newburgh Brewing
	Scenic Hudson	Private Property Owners
	Newburgh Armory	

ENGAGEMENT PROCESS

Engagement for the Master Plan and Implementation Strategy was organized into three main phases to align with project development: Feasibility Study Refinement and Site Evaluation; Master Plan and Design Development; and Implementation Strategy. Engagement included regular presentations to the Steering Committee for continued updates and feedback, as well as numerous one-on-one conversations with key government representatives from the City of Newburgh, the Town of New Windsor, and Orange County, along with other stakeholders.

In addition to in-person and virtual meetings, two handouts and stickers were developed to distribute information more widely to community members. The first handout focused on raising awareness of the creek and benefits of a greenway, while the second handout focused on informing the public about the implementation strategy and next steps. Handouts were used as both vehicles to advertise public events as well as longer-term informational materials. Stickers highlighted local animal species that are found within the creek to raise awareness of the biodiversity and ecological potential of the corridor.

Figure 48. Community engagement materials: handouts and stickers to build awareness of the Quassaick Creek Greenway. Source: OLIN.

ENGAGEMENT TIMELINE

2024

Project Kick-off — S — MAY
Review of Feasibility Study and criteria for catalyst site selection

Walk the Creek Dialogues — P — JUNE
Identification of priority sites, key opportunities and challenges, and existing community plans and initiatives

P — JULY

P

Catalyst Site Evaluation and Ecological Analysis Update — S
Assessment of site evaluation matrix and discussion strategies for engaging project champions

Creek Fest — P — SEPT
Interactive platform for community members to connect with the Quassaick Creek's ecology and recreational potential

Champion Mapping — S
Evaluation of stakeholder implementation capacity and project alignment for potential catalyst sites

1-on-1 Stakeholder Conversations — 1:1 — OCT
Focused dialogues to identify synergies with representatives from the City of Newburgh, the Town of New Windsor, Orange County, Quassaick Creek Watershed Alliance, Newburgh Wants a Park, Riverkeeper, and Outdoor Promise

1:1

1:1 — NOV

1:1

2025

Plan Review — S — JAN
Review of final trail alignment, ecological assessment and toolkits, and catalyst/opportunity sites

Public Forum — P — MARCH
Celebration and information session on envisioned network of trails, parks, and natural area along the Quassaick Creek

S **Steering Committee Meeting**

P **Public Event**

1:1 **1-on-1 Stakeholder Conversation**

Figure 49. Photos of engagement activities. Source: OLIN / MUD Workshop.

ENGAGEMENT FINDINGS

Key findings from the engagement process include critical decision-making factors and shared values for the Quassaick Creek Greenway. The following takeaways focus on Greenway priorities, the planning process, and more extensively considerations in the identification of a Catalyst Project.

Planning Process Priorities

- Engagement activities should "meet people where they are." Couple community outreach events with other regular community programming.
- Develop bilingual project-specific educational materials in print and digital formats.
- Format steering committee meetings as working sessions that allow the project team to develop a realistic implementation pathway based on available resources and existing / potential partnerships.

Greenway Priorities

- Consider environmental education and community science as an important programmatic and research aspect throughout the future Greenway.
- Balance economic benefits with inclusive access for all residents.

Catalyst Project Selection Considerations

- Site control should be treated as one of the most critical parameters.
- Municipally-owned lands within the City of Newburgh at Snake Hill and surrounding Crystal Lake are currently under investigation by the City to resolve encroachments.
- Connecting to the Hudson River and waterfront trail, the lower Quassaick Creek area offers scenic views, parking, and flat terrain but faces site control and access challenges.
- Crystal Lake offers strong regional connectivity. Its historic use as a beach and existing programming (Sanctuary Healing Garden) are precedents to the site's community programming potential. Several community-based organizations are active in this area. It can also be a more formalized connection to the regionally significant Snake Hill Preserve. Steep terrain in the surrounding area is challenging to an accessible Greenway connection.
- Diamond Candle Factory is centrally located and may be accessed by existing bridges and roads from both Newburgh and New Windsor, thus offers more equitable access as a main Greenway hub. Public ownership, an existing bridge connecting bank to bank, and dam removal projects support its viability, though environmental liabilities require significant cleanup. Orange County has already received funding and conducted environmental investigations on the site and is receptive to further advancing the project.
- Schleiermacher Park could serve as an entry point to the future Quassaick Creek Greenway. Located near Broadway in a walkable, flat area, and close to Lake Street and Mullins Apartments, this site links residential areas to the creek and supports community-centered development. Future changes from dam removal and its role as both an ecological and community asset suggest its suitability as a later-phase project rather than an initial catalyst.
- Muchattoes Lake is frequented by community members, though residents highlighted accessibility and maintenance needs. Riverkeeper is engaged in alternative visions for Muchattoes Lake that need to be coordinated with the City of Newburgh before planning for Greenway development here.
- Little Falls Park offers opportunities for ecological enhancement and permanent protection in an existing open space area of the Town of New Windsor along the creek. The Town's Park and Recreation Master Plan was in process during the Quassaick Creek Greenway Master Plan study. Alignment of the two plans offers great potential for both the development of this segment of the Greenway as well as expanding access and stewardship to recreation within the Town of New Windsor's parks system.
- Collaborative efforts with stakeholders including private landowners and coordinated planning are essential to enhance connectivity and create an inclusive, cohesive vision for the community.

Shared Community Vision and Aspirations

Integrate the Quassaick Creek Greenway with the regional trail network.

Enjoy easy access to nature in places like Snake Hill Preserve, Crystal Lake, Little Falls Park, and the Hudson River.

Provide programming that promotes physical health, community cohesion, and mental health.

Figure 50. Overlooking the Hudson River from Snake Hill. Source: Scenic Hudson.

Figure 51. "Aquablitz" Community Science Event. Source: Scenic Hudson.

Walk, bike, and hike for recreation.

Spend time in nature and near water.

Improve local connectivity by providing access points in neighborhoods and improving streetscapes that link destinations.

Conserve habitat and biodiversity.

Provide opportunities for environmental education and stewardship.

Figure 52. "Aquablitz" Community Science Event. Source: Scenic Hudson.

A Closer Look: Champion Mapping

With the goal of implementing a Catalyst Project, partnerships and champions are critical for discrete capital projects and funding efforts. The work session paired key stakeholders with priority projects along the Greenway.

Process

Participants represented local organizations including the City of Newburgh, Town of New Windsor, Orange County, Orange County Land Trust, NY-NJ Trail Conference, Outdoor Promise, Quassaick Creek Watershed Alliance, Newburgh Wants a Park, and Riverkeeper. Each participant received a deck of cards describing improvements associated with the potential project sites, as well as feasibility considerations including land control and geophysical features.

Key questions sought to identify alignments between projects and participants with respect to organizational goals and capacity for project facilitation.

WORKSHOP QUESTIONS:

Implementation Capacity

- Do you have / can you facilitate / are you willing to take land control needed for the project?
- Do you have / are you willing to apply and manage funds needed begin implementation?
- Are you able to dedicate your time or staff time to coordinate the project?

Project Alignment

- Does the project align with your organization's goals and mission and / or with your Strategic Plan?
- Will the project have a positive affect to your public image?
- Is there political willingness to take on the project at this time?

Figure 53. Champion mapping exercise: Catalyst Project Opportunity Cards. Source: OLIN / MUD Workshop.

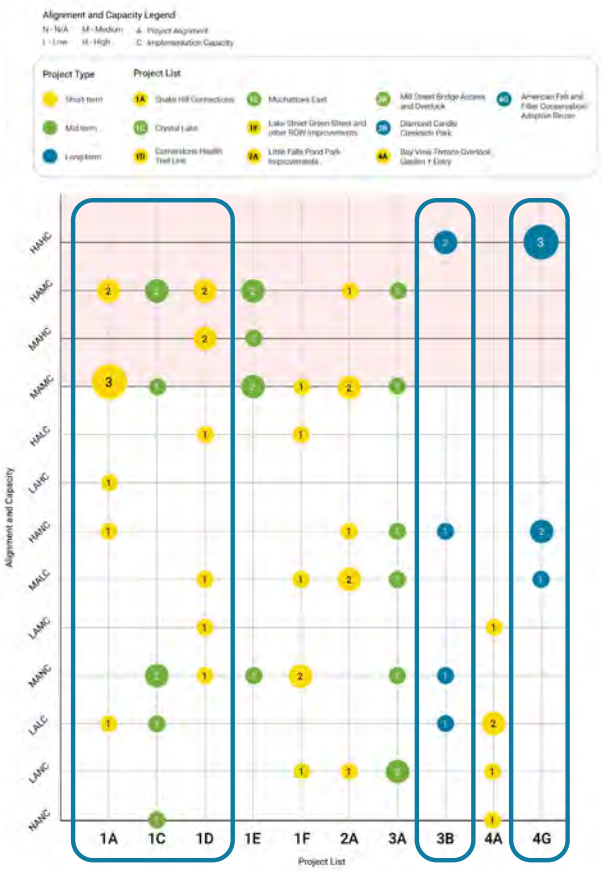


Figure 54. Champion Mapping project priority analysis. Source: MUD Workshop.

Figure 55. Champion Mapping interactive exercise to prioritize potential projects. Source: OLIN.

Sites with the strongest alignment with organizational goals, readiness for implementation, and potential for impactful community-centered development included the Lower Gorge Trails, Snake Hill Connections, Muchattoes Lake, and Lake Street Health Link.

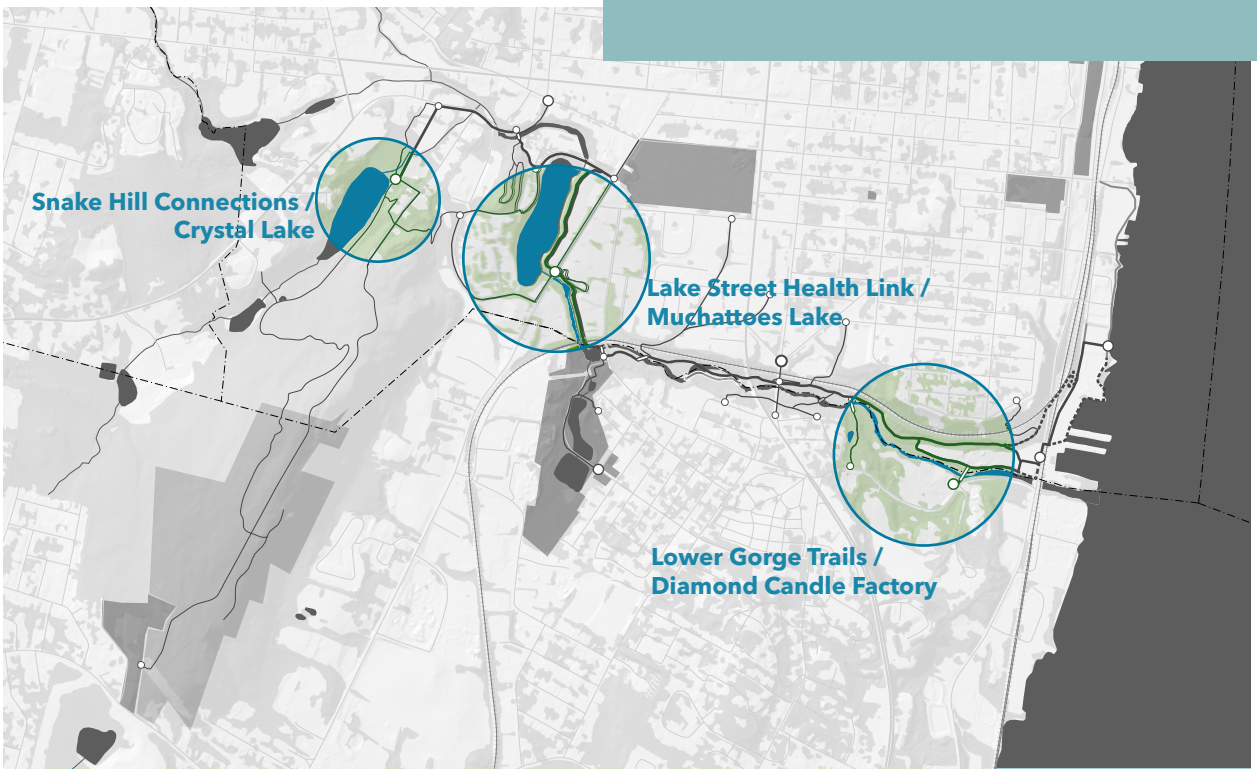


Figure 56. Champion Mapping project priority areas. Source: OLIN.

A Closer Look: Creek Fest

Creek Fest revealed a strong community interest in environmental activities, such as birdwatching and ecological education, as well as historical storytelling. Connecting these interests with the proper infrastructure is essential for fostering greater public engagement in the final implementation of the Quassaick Creek Greenway.

COMMUNITY FEEDBACK

1 | There is interest in nature related activities and historical narratives, but better infrastructure and walkways are required to facilitate access.

2 | The Hudson River trail offers scenic views but lacks a dedicated bike path, which is a significant need.

3 | Across multiple areas, there is a need for improved infrastructure, including parking, bike paths, and clearer access routes.

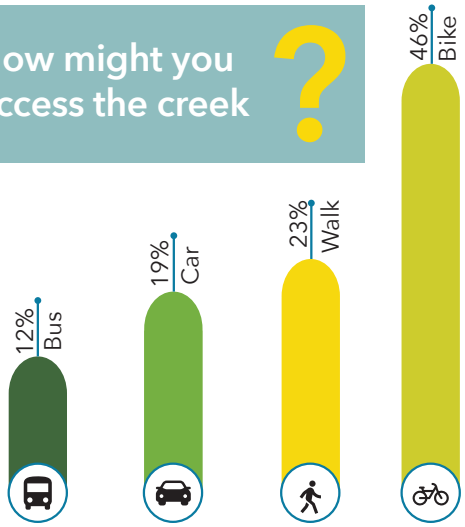
4 | Bus and public transportation are unpopular; people prefer personal vehicles for better reliability, convenience, and flexibility.

A table was set up for participants to review focus area maps and provide input on the benefits and programming they envision for each site, fostering collaboration and valuable feedback.

A 12-foot interactive map was also displayed, highlighting access points, key focus areas, popular destinations, and potential Catalyst Projects. Attendees could mark areas they frequented with orange dots, places they liked to visit with pink dots, and their preferred access routes with yellow dots, while also leaving suggestions or concerns on sticky notes.

Additionally, large poster-sized photos of creek focus areas facilitated discussion and provided photo opportunities. Attendees could visualize their ideal creek experiences by adding cutouts of local flora, fauna, and programming elements, with a dedicated coloring area for children.

How might you access the creek ?



What kind of activities would you like to experience along the Quassaick Creek ?

Active Activities: Pathway for Running, Dedicated Bike Lane

Family Activities: Fishing, Kayaking

Ecology Learning: Nature Classroom, Bird Watching

Figure 57. Community input on access and programming of the Greenway. Source: MUD Workshop.

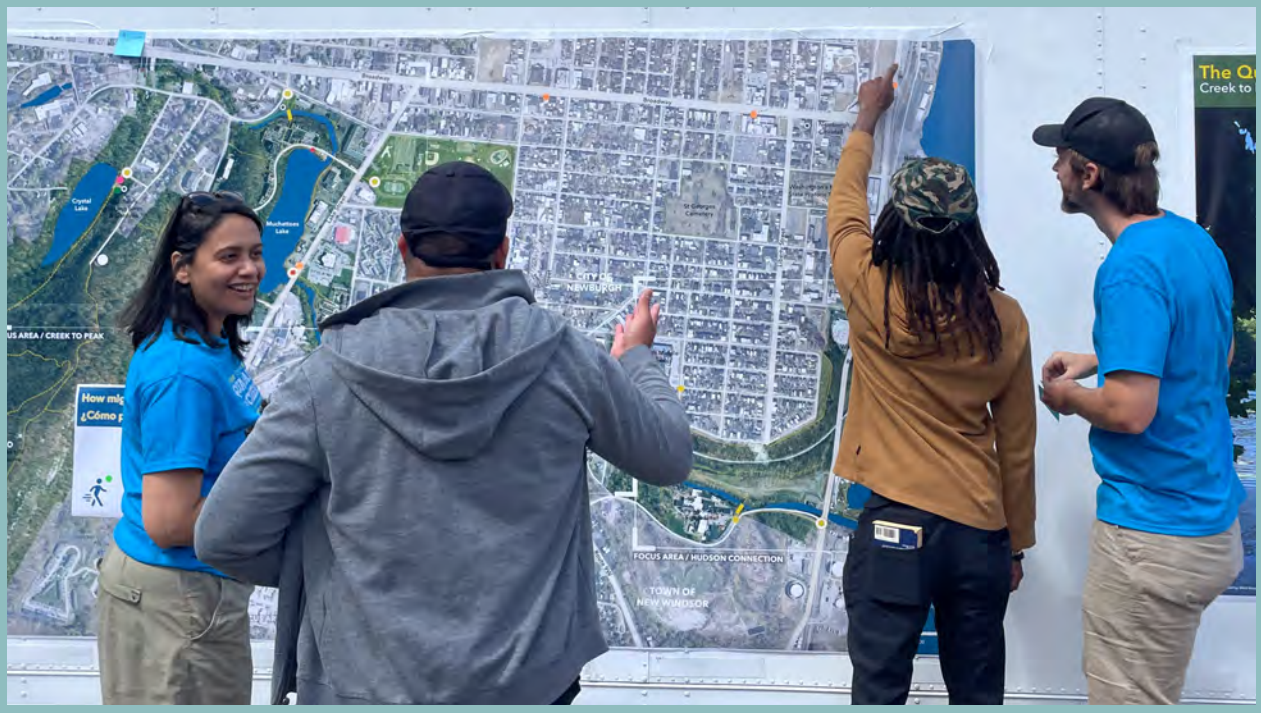


Figure 59. A large-format map oriented participants to the creek corridor. Source: OLIN.

Figure 58. Activities for kids included coloring animal cut-outs. Source: OLIN.

4 | MASTER PLAN AND IMPLEMENTATION STRATEGY

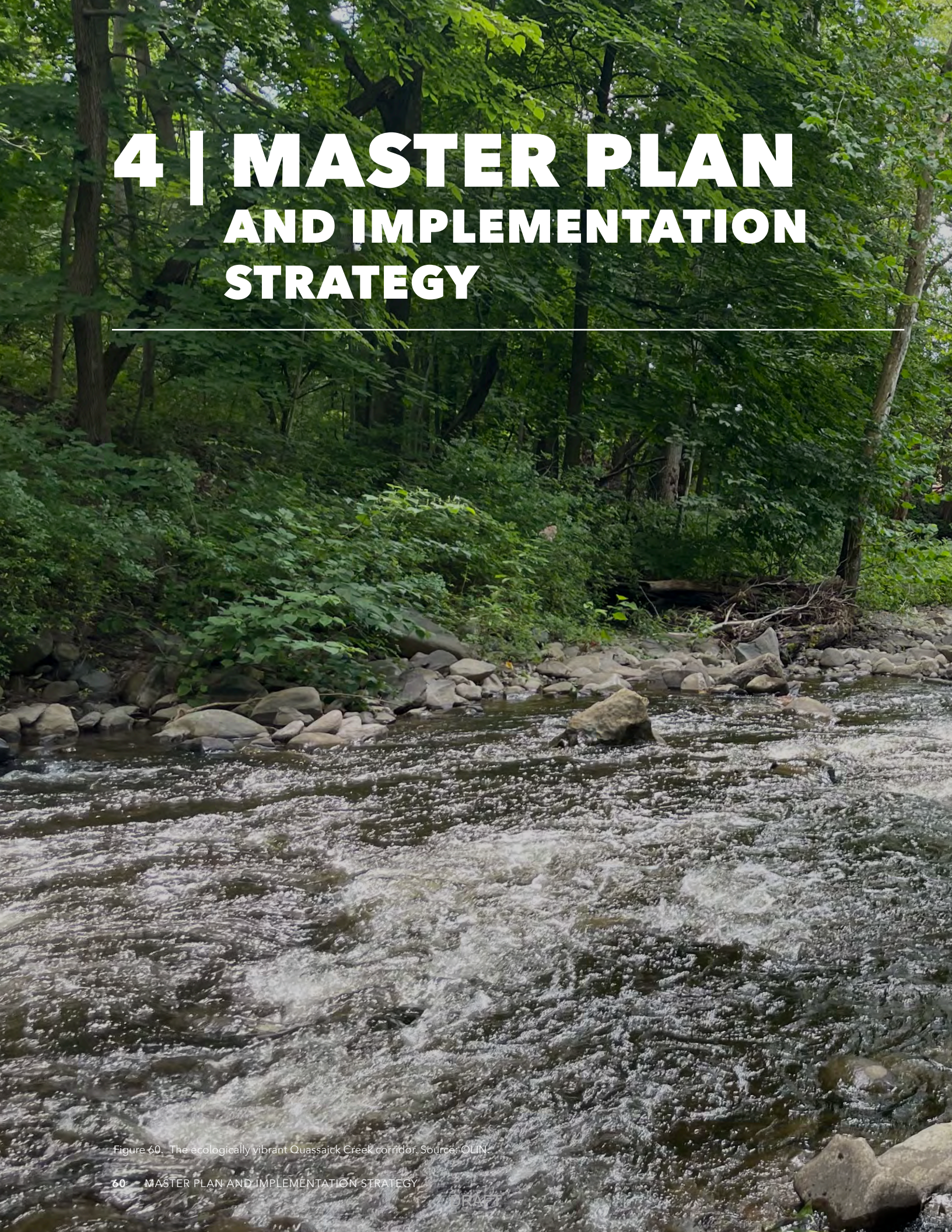


Figure 60. The ecologically vibrant Quassaick Creek corridor. Source: OLIN

The Master Plan and Implementation Strategy refines the Quassaick Creek Greenway trail alignment, evaluates the implementation opportunities and challenges, identifies a Catalyst Project and other near-term actions, and further cultivates partnerships and stewards of Greenway segments and trailheads.

GREENWAY ALIGNMENT AND ACCESS

The ultimate goal of the Greenway alignment is to provide a continuous trail along the Quassaick Creek with equitable and effective access and activation points for the communities of Newburgh and New Windsor.

To accomplish this, the implementation strategy builds upon the criteria and guidelines from the Feasibility Study while addressing ongoing challenges related to topography, property ownership, infrastructure conflicts, and site conditions. Refinements for implementation simplified the trail alignment, reducing redundancy and relying more on existing or modified cross-creek connections to create a continuous link, while maintaining numerous access points.

The following priorities informed a revised trail alignment for the Master Plan and Implementation Strategy:

FEASIBILITY STUDY TRAIL ALIGNMENT GOALS AND CRITERIA

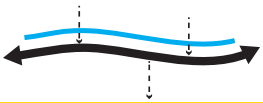
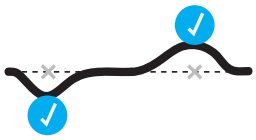
Path Evaluation Criteria

- Ability to gain property owner permission, minimize property acquisition
- Ability to increase visual and physical access to the Quassaick Creek
- Ability to connect community members to the Greenway network in an equitable fashion
- Ability to mitigate environmental impacts and restore habitat
- Ability to simplify construction and maintenance access
- Ability to reduce overall cost
- Ability to use existing infrastructure or paths
- Ability to connect with historical and cultural assets

Path Alignment Goals

- Create a continuous shared-use path from the Hudson River to Crystal Lake
- Provide multiple places to access the Greenway, connecting as many neighborhoods and communities as possible, with particular attention to environmental justice communities
- Make the creek more visible and accessible, as many people do not know the creek exists, nor have they been able to physically access it
- Connect to community assets such as schools, business corridors, and parks
- Make the path useful by creating links north and south in addition to along the length of the creek

IMPLEMENTATION STRATEGY: TRAIL ALIGNMENT REFINEMENTS

Strategy	Benefit	Challenges
Focus alignment on a main, continuous, multi-use, ADA-compliant trail that includes a bike route 	Investments can be focused on an ADA-compliant and bikeable trail to maximize equitable access and benefits of the Greenway as an alternate mode of non-motorized transportation.	Constraints of both natural topography as well as road and rail infrastructure create pinch points at certain sites. Unique solutions and/or narrowed trail profiles will likely be required. AGODA Guidlines also provide for accessible trails in outdoor developed areas.
Maximize cross-creek opportunities 	Using existing crossings and aligning with pre-existing bridge improvement projects can enable access from both sides of the creek and minimize the need for redundant main Greenway trail segments.	Some bridge access points in ideal crossing locations will require structural evaluation and repair, including the historic Mill Street and Twin Arch Bridges; others will require traffic studies to determine configuration for integrating safe pedestrian and bike travel. New bridge crossings will require a comprehensive permit process. Since the creek is the boundary between two distinct municipalities, close coordination between the Town of New Windsor and the City of Newburgh will be critical.
Preserve habitats of value by utilizing existing trails, easements, and haul roads; minimize disturbance of steep slopes 	Connecting existing greenways, trails and community links will promote use and access to the Greenway and foster greater connectivity between neighborhoods and recreational resources. Taking a light-touch approach by aligning new trails to existing routes (footpaths, abandoned haul roads, and utility easements) where possible minimizes disturbance on ecologically sensitive land and may require less capital investment.	The plan has outlined several gaps impacted by rail corridors and a lack of easements facilitating pedestrian connections along the Greenway. As noted before, grades are steep along the reaches of the creek in several areas and right of way shoulders along public roads are also limited.
Update alignment based on site availability 	Establishing initial access points and trail segments on land that is actively available for improvements lays groundwork and builds momentum for a fully connected Greenway corridor.	The Quassaick Creek corridor is a mixture of publicly and privately owned properties. Select access points and trails will require public access easements or outright acquisition. Adjoining government entities and property owners will need to coordinate to enable continuity of access and management across jurisdictional boundaries.

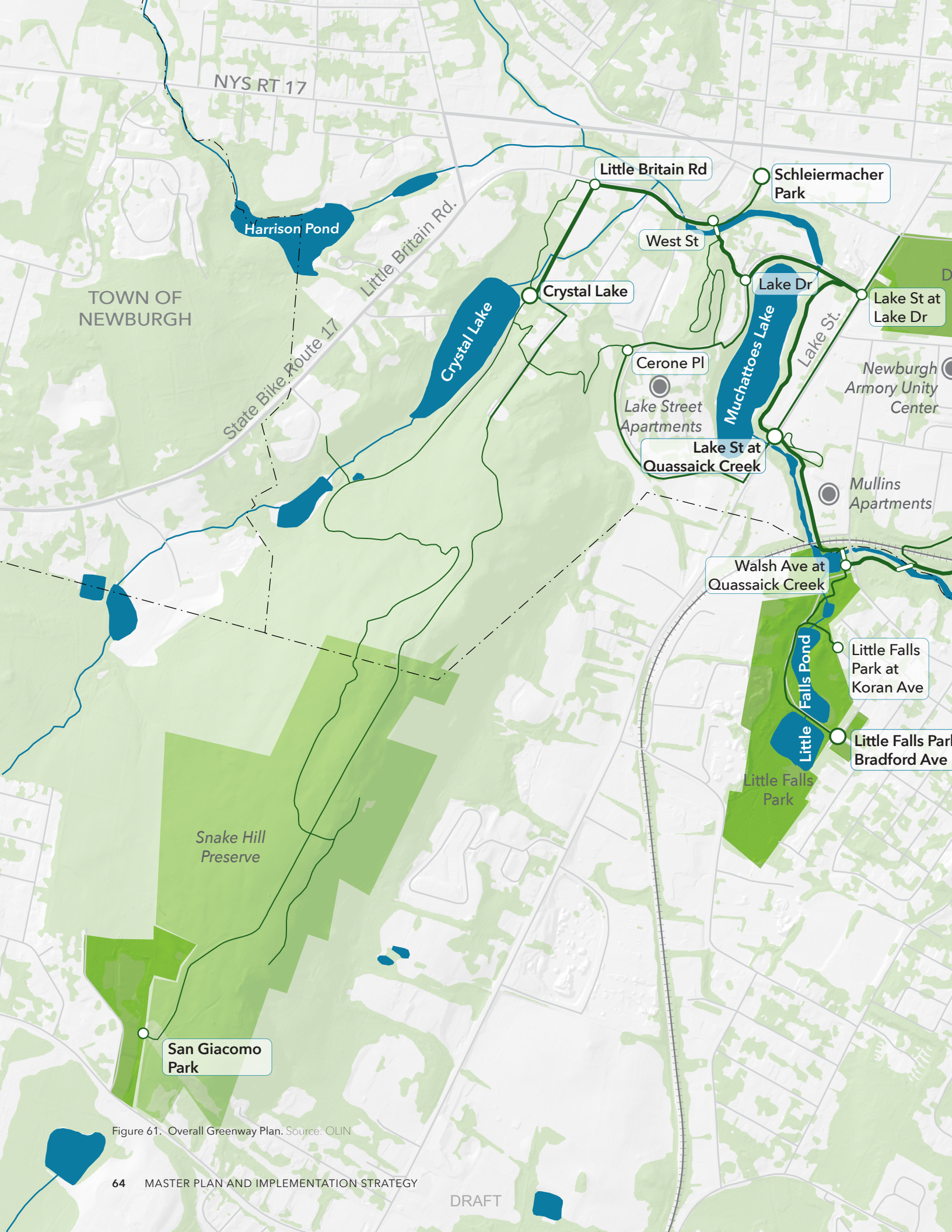


Figure 61. Overall Greenway Plan. Source: OLIN


Broadway
Newburgh Beacon Bridge
Newburgh City Hall
elano-Hitch Park
Washington's Headquarters
CITY OF NEWBURGH
Delano Hitch Park / South William Street
Mill St.
Liberty St.
Water St.
Dickson St East
Overlook Pl
South Middle School
Mill St Bridge Crossing
Mill St Bridge Stair / Ramp
Ward Brothers Memorial Rowing Park
John St
Bay View Terrace
Twin Arch Bridge
Columbus St / Diamond Candle Factory
HUDSON RIVER
Water Street
Upper Walsh Ave
Lower Walsh Ave
Calvary Cemetery
RT. 9W
TOWN OF NEW WINDSOR
MAP LEGEND
Trailhead
Entrance
Primary Multi-use Path
Secondary Multi-use Path
Pedestrian Only Path
Alternative Alignment
Reconstructed Bridge
Proposed Bridge
Rail
Local Destinations
Parks / Tree Canopy
400
2000 FT
200
1000

CATALYSTS AND CONNECTORS

To determine where the most effective Catalyst Project could be implemented, an in-depth analysis of the proposed trail alignment, trailheads, and entrances was conducted to identify discrete sites that would be both feasible to develop in the near term and have a catalyzing effect on the rest of the Greenway plan. The assessment included three main categories of analysis: development opportunities, community need and priorities, and capacity and resources.

The analysis identified the most important individual drivers for the implementation of a Catalyst Project to be site control or ownership, safe access, and the capacity of a project champion.

The analysis, which included site visits, stakeholder engagement, and desktop research, resulted in a comprehensive list of projects that was cataloged and served as a basis for prioritization with the Quassaick Creek Greenway Steering Committee. These project sites were categorized as either **catalysts** or **connectors**.

Finding the Opportunities

The intent for the Catalyst Project is to advance existing and often long-standing community aspirations. In general, potential catalyst sites tend to fall within two main opportunity areas:

- Private properties with owners who have visions for change in the near future and have an interest in supporting and integrating the Greenway into the planning for their property, or
- Public lands owned by the City of Newburgh, the Town of New Windsor, or Orange County that are ideal locations for Greenway access with existing advocacy from community organizations and public agencies.

In many cases, the potential catalyst sites identified in this plan rely on a combination of the two.

Catalyzing Action

Anticipated project timelines play an important role in the evaluation of catalysts and connectors. While a major goal of this plan is to identify a site for catalyzing the Greenway in the near-term, there are several opportunities along the corridor with long timelines that would serve as critical components of a continuous and accessible Greenway. Recommendations, therefore, not only include concepts for a Catalyst Project, but also identify other opportunity areas and long-term actions needed to advance Greenway implementation throughout. Some of these long-term actions can start now, even though their catalytic actions may not take place immediately.

Catalysts are projects that can begin in the near term and would help bring awareness and further investments to the Greenway.

Connectors are segments of the Greenway that enable connectivity but require other projects to be completed before they can be implemented.

Site Evaluation Categories

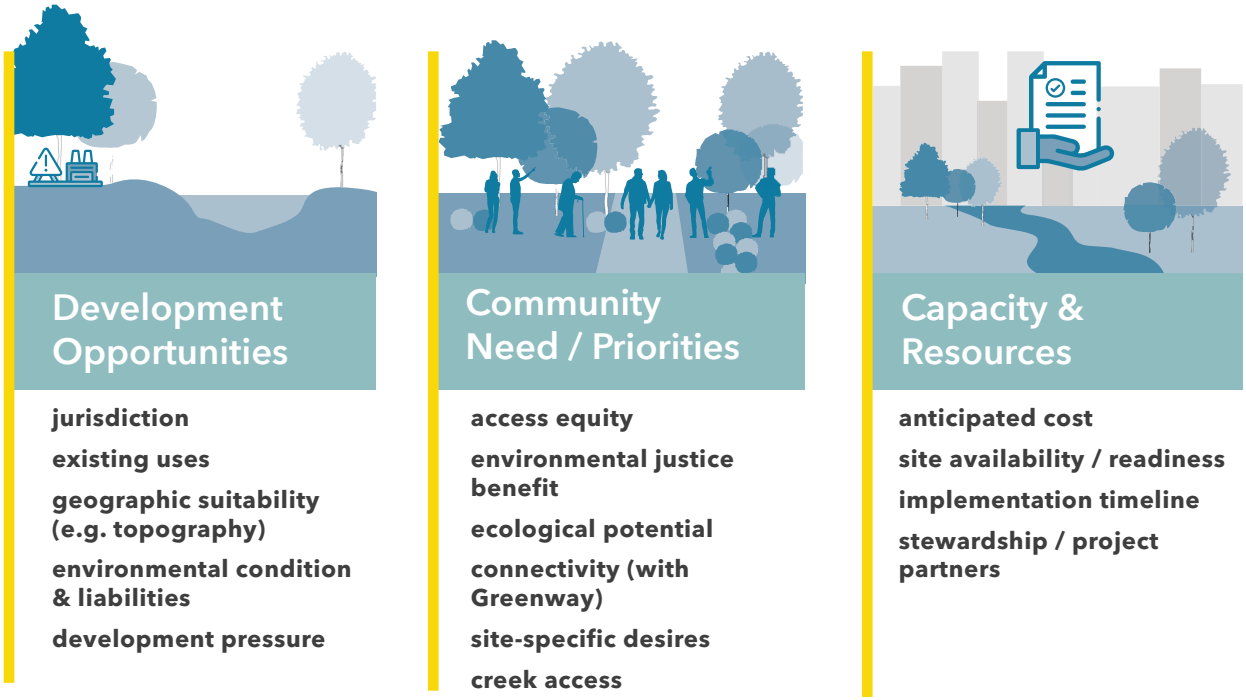


Figure 62. Catalyst Project selection evaluation categories. Source: OLIN.

SOLIDIFYING PARTNERSHIPS

Project Champions

Successful implementation of the Greenway plan depends upon the support, facilitation, and stewardship by property owners, community groups, and governments; these are the champions of the project. The willingness and capacity of these champions is critical to the implementation of the Catalyst Project.

A champion mapping exercise revealed priority sites aligned with local capacity and ambitions. This exercise helped finalize the identification of the Catalyst Project as well as three other Opportunity Areas where continued advocacy is beneficial to advancing community-driven projects along the Greenway. Further detail about the champion mapping exercise is included in Chapter 4: Community Engagement.

Partners and Property Easements

Due to both the patchwork of property ownership, as well as intent to preserve valuable habitat, many will rely on access agreements or outright acquisition. The existing easements at utility corridors, such as Newburgh's easement over their sewer infrastructure, may be a powerful tool in advancing Greenway access. Additionally, adjoining government entities and property owners, including public entities, will need to coordinate to enable continuity and equitable management access across the Greenway. The work of the implementation plan is to outline these easement locations and to solidify the partnerships across ownership and jurisdictional boundaries.

Fortunately, there has been broad collective support for the Greenway from both private property owners and local governments. Governments, especially inter-municipal agencies, are the ideal entities to implement and maintain a continuous and well-tended Greenway for the community and region. Public-interest management organizations or land trusts may also have a strong foundation to provide support for stewarding the Greenway.

FOCUS AREAS: PROJECT IMPLEMENTATION EVALUATIONS

To be able to evaluate implementation considerations for potential catalyst sites, the Quassaick Creek study area was divided into four main focus areas based on landscape typology and property control considerations. The following pages outline the potential catalyst and connector projects within each focus area, along with anticipated timeline for the development process, implementation considerations, owners and partners, and project impact.

This evaluation is intended to record implementation considerations that informed the selection of the Catalyst Project. It is also intended to facilitate advancement of other opportunities as they arise in the future.

Figure 63. Focus Area Key Plan. Source: OLIN.

Focus Area 1: Hudson River Connection

This Focus Area begins at the Hudson River, linking existing waterfront community spaces such as the Ward Brothers Memorial Rowing Park with access to the beginning of the Quassaick Creek near Walsh Ave and River Road. Views from Bay View Terrace overlook this section.

Activation / Enabling Process

Capital Project

	PROJECT	SHORT-TERM (1-5 YEARS)	MID-TERM (6-10 YEARS)	LONG-TERM (11-15 YEARS)
1	Bay View Terrace Overlook Garden + Entry	Interpretation, seating, garden, and Hudson River Overlook		Connector Trail
2	River Road Entry Trail	Public access and conservation easement agreements	Trailheads, limited parking, trails, and bridges	
3	Meadow Loop	Public access and conservation easement agreements	Pedestrian safety improvements at roadway access, trailhead, limited parking, trail improvements	Creek Science Classroom
4	Shoreline Connector Trail	Signalized intersection and pedestrian improvements to roadways to expand connections between the Greenway and the Hudson River		
5	Twin Arch Bridge Connector Trail			Alignment and development of trail connecting to Twin Arch Bridges on CSX property
6	Hudson River Waterfront Trail Extension		Public access and conservation easement agreements	Water St crossing trail construction
7	Post-Industrial Site Conservation/ Adaptive Reuse	Public access and conservation easement agreements	Partial trail development and site cleanup	Adaptive reuse of factory structures with a trail along Quassaick Creek with a connection to Diamond Candle trails

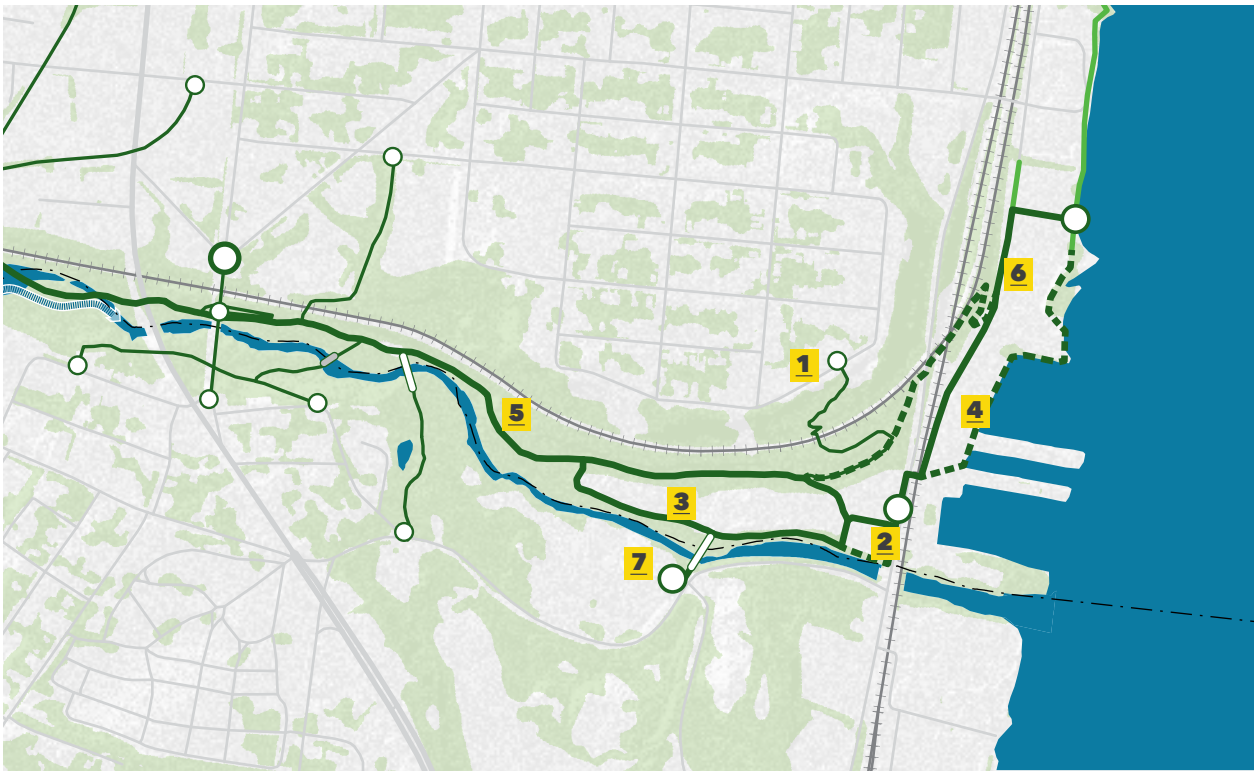


Figure 64. Project locations for Focus Area 1: Hudson River Connection. Source: OLIN.

	DEVELOPMENT CONSIDERATIONS	CAPACITY / RESOURCE PARTNERS	COMMUNITY NEED / PRIORITY
	· Easy access to open land to transform · City-owned land is intermixed with some private parcels · Access to creek is dependent on CSX property crossing	· City of Newburgh · Multiple private landowners · CSX	Open Space / Recreation
	· Access from Water St / River Rd may require traffic study for pedestrian safety · Environmental constraints of an industrial property · Bridge design and permitting	· Private landowner · City of Newburgh	Mobility / Access
	· Property transfers or easements needed · Easement along creek bank already in place · Evaluate feasibility of trail alignment over sewer easement.	· Private landowner · City of Newburgh · Sewer Authority	Environmental Education / Connectivity
	· Structural evaluation and possible restoration of waterfront bulkheads. · Coordination with CSX will be required	· CSX · Private landowner · NYSDEC coordination	Connectivity / Access
	· Coordination with CSX required	· CSX · City of Newburgh	Connectivity
	· Site may require clean-up and trail development will need to account for sea level rise	· NYSDOT · Private landowner · NYSDEC for remediation	Mobility / Connectivity
	· Site may require clean-up and adaptive reuse will require further study	· Private landowner	Connectivity / Open Space / Recreation Mobility / Access

Focus Area 2: Diamond Candle / Mill Street Bridge

Extending from the mouth of the Quassaick Creek through a scenic gorge, this Focus Area includes former industrial sites, recovering creek banks, railroad right-of-way, and potential access for both Newburgh and New Windsor from existing crossings such as the Mill Street Bridge. Key community assets such as Delano Hitch Park, South Middle School, and key neighborhood streets are connected through this stretch.

The former Diamond Candle factory site is a county-owned Brownfield that was subject to Phase 1 and 2 Environmental Assessments. The County is exploring funding to clean up the site so that it can be reused.

Figure 65. Mill Street Bridge. Source: OLIN.

Activation / Enabling Process

Capital Project

IMPLEMENTATION ACTIONS & CONSIDERATIONS: DIAMOND CANDLE / MILL STREET BRIDGE

	PROJECT	SHORT-TERM (1-5 YEARS)	MID-TERM (6-10 YEARS)	LONG-TERM (11-15 YEARS)
8	Mill Street Bridge Access and Overlook	Initiate traffic studies and advocate for one-way traffic on Mill Street Bridge. Launch creek awareness campaign at future trailheads.	Bike and pedestrian safety improvements. Look-out cantilever and access from Mill Street Bridge to Quassaick Creek Entry point plaza on New Windsor side.	
9	Diamond Candle Creekside Park	Apply for brownfield/clean up grants	Begin clean up at Diamond Candle Factory site	Complete cleanup. Trailhead at Plympton Street. Trail development between entrances on Plympton and John Streets. Connection to Twin Arch Bridge with trail alignments on public parcels north and south of Quassaick Creek.
10	Holden / John's Pond Dam Removal/ Restoration		Riverkeeper completes removal of dam and associated restoration Trailhead at John St. New trail following Creek rerouting following dam removal	
11	Holden Dam Connector Trail			Trail connection between the Holden Dam removal site and Walsh Ave Bridge Trailhead
12	Twin Arch Bridge Restoration	Debris clean up	Continued debris clean up	Bridge improvements
13	Delano Hitch Park Connector Trail and Trailhead		Initiate public access and conservation easement agreements	Utilize old railroad ROW to create a new off road connection
14	Mill Street / South Middle School Connector Trail and Trailhead	Public access and conservation easement agreements	Initiate public access and conservation easement agreements	Utilize old railroad ROW to create a new off road connection

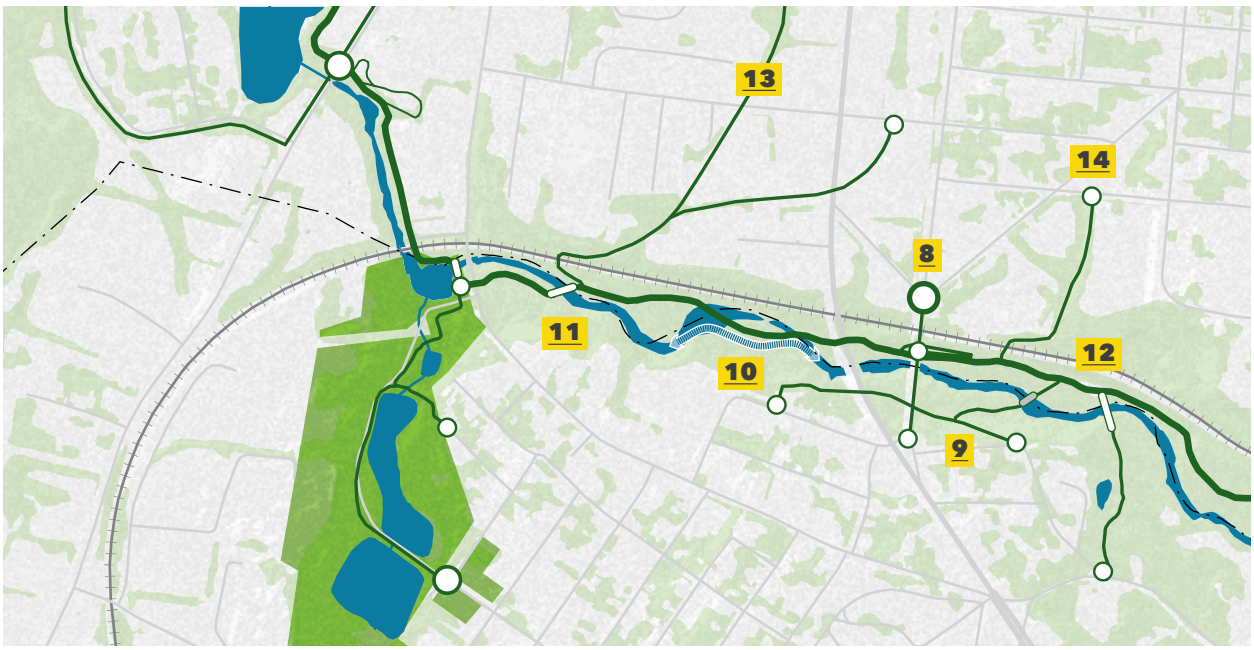


Figure 66. Project locations for Focus Area 2: Diamond Candle / Mill Street Bridge. Source: OLIN.

	DEVELOPMENT CONSIDERATIONS	CAPACITY / RESOURCE PARTNERS	COMMUNITY NEED / PRIORITY
	· Bridge ownership and maintenance responsibilities need to be confirmed · Structural evaluation of bridge capacity to support additional structure · Bridge eligible for National Historic Register	· Orange County · City of Newburgh · Town of New Windsor · NYSDOT · NYSOPRHP	Mobility / Safety / Access
	· Trail development is dependent on future cleanup efforts · Additional easements may be required	· Orange County · Private landowner · NYSDEC · NYSDOH · NYSOPRHP	Remediation / Access / Connectivity
	· Trail development will require coordination with the planned dam removal	· Multiple private landowners · NYSDEC	Habitat Restoration
	· Property south of Quassaick Creek between Walsh Ave and Diamond Candle site is all privately owned	· Multiple private landowners	Connectivity
	· Additional structure studies and hydraulic studies maybe be required	· Orange County · City of Newburgh · NYCDEC/OPRHP	Mobility
	· Land ownership with CSX and adjacent industrial/encroachments needs to be confirmed	· City of Newburgh · CSX	Mobility / Connectivity
	· Land ownership with CSX and adjacent industrial/encroachments needs to be confirmed	· City of Newburgh · CSX · Private landowner	Open Space / Access

Focus Area 3: Little Falls Pond

Centering around ponds and wetland areas in the Town of New Windsor, the Little Falls Pond focus area connects an existing naturalistic open space and water source with the main creek corridor. Recommendations here can support New Windsor's current open space planning and residents' stated desires for more trails.

Figure 67. Little Falls Pond. Source: MUD Workshop.

IMPLEMENTATION ACTIONS & CONSIDERATIONS: LITTLE FALLS POND

	PROJECT	SHORT-TERM (1-5 YEARS)	MID-TERM (6-10 YEARS)	LONG-TERM (11-15 YEARS)	
15	Little Falls Pond Park Improvements	Incorporation into New Windsor Parks and Recreation Plan. Dedicate park; formalize and maintain existing pond trail. Wayfinding and lighting at Cherry Ave. entrance. Stabilize functional ecology via wetland/pond habitat enhancements.	Walkway or boardwalk connecting entry points at Cherry and Koran Avenues. Wayfinding and lighting added at Koran Ave.		
16	Little Falls Pond Park Connector		Private property easement negotiations	Trail connection from Little Falls Park Trail to Walsh Ave Dam area. Safe pedestrian crossings at Walsh Ave and near Walsh Ave Bridge.	

Activation / Enabling Process

Capital Project

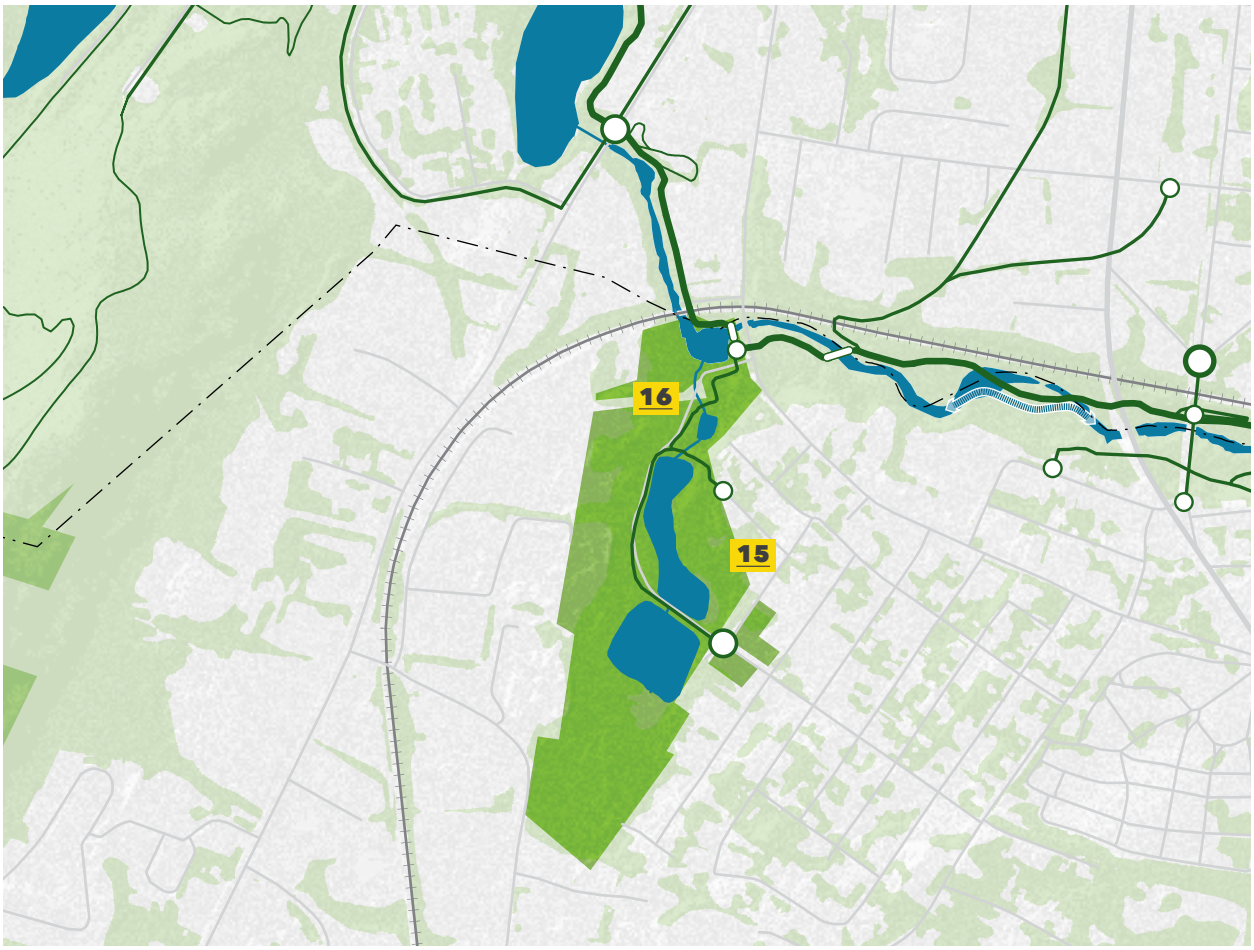


Figure 68. Project locations for Focus Area 3: Little Falls Pond. Source: OLIN.

	DEVELOPMENT CONSIDERATIONS	CAPACITY / RESOURCE PARTNERS	COMMUNITY NEED / PRIORITY
	· Land is currently zoned municipal use · Coordination with adjacent landowners may be required · Little Falls Pond is mapped as having potential regulated wetlands that should be evaluated; a jurisdictional determination should be made by the NYSDEC to refine site development options	· Town of New Windsor · NYSDEC	Open space / Recreation
	· Land is currently zoned "municipal use" · Coordination with adjacent landowners may be required. · See regulated wetland note above.	· Town of New Windsor · City of Newburgh · NYSDEC	Mobility / Connectivity

Focus Area 4: Creek to Peak

Traversing the creek valley up to Snake Hill Preserve, the final focus area encompasses numerous residential developments, such as Mullins Apartments and Lake Street Apartments, commercial destinations, community services, and important transit corridors, such as the Lake St linkage to the other side of Delano Hitch Park and Broadway. Existing community-based and recreational uses in this area, such as the Crystal Lake Sanctuary Healing Gardens and Quassaick Watershed Alliances' kayak events, inform the potential for the Greenway here.

Figure 69. Tree planting along Crystal Lake. Source: OLIN.

Activation / Enabling Process

Capital Project

IMPLEMENTATION ACTIONS & CONSIDERATIONS: CREEK TO PEAK

	PROJECT	SHORT-TERM (1-5 YEARS)	MID-TERM (6-10 YEARS)	LONG-TERM (11-15 YEARS)	
17	Snake Hill Connections	Trail signage, interpretive signage, and parking area improvements at Crystal Lake, Snake Hill summit, and San Giacomo Park			
18	Cerone Place Entry/Ellis Ave	Public access/conservation easement agreements	New trailhead at Cerone Place. New trail through Ellis Ave Development.		
19	Crystal Lake	Activation programming. Due diligence for encroachments on municipal land.	Ecological restoration. Improved shoreline and access for water uses.		
20	Lake Street Health Trail Link	Private property easement negotiations. Open space and habitat improvements.	Right-of-way multiuse path. Nature trail connection between Lake Street and Mullins Apartments.		
21	Muchattoes East	Private property easement negotiations	Trail along eastern edge of Muchattoes Lake/behind Lake St commercial properties.		
22	Lake Street Green Street and other ROW Improvements		Lake St complete streets improvements and crossings. Trail along eastern edge of Muchattoes Lake.		
23	Muchattoes West	Formalize Muchattoes Lake path at Trees for Tribs site		Walkway/boardwalk along northern edge of Muchattoes Lake and connection through Lake Street Apartments to edge of creek	
24	Walsh Road trailhead/ Mullins Connection		Create an anchor/connection point for future trail connection under the rail across to Mullins Apartments	Trail connection/flood mitigation at the edge of Mullins Apartments between Walsh Rd and Lake St	
25	Schleiermacher Park Connection			Update to park, interpretive signage for entry to the Greenway	

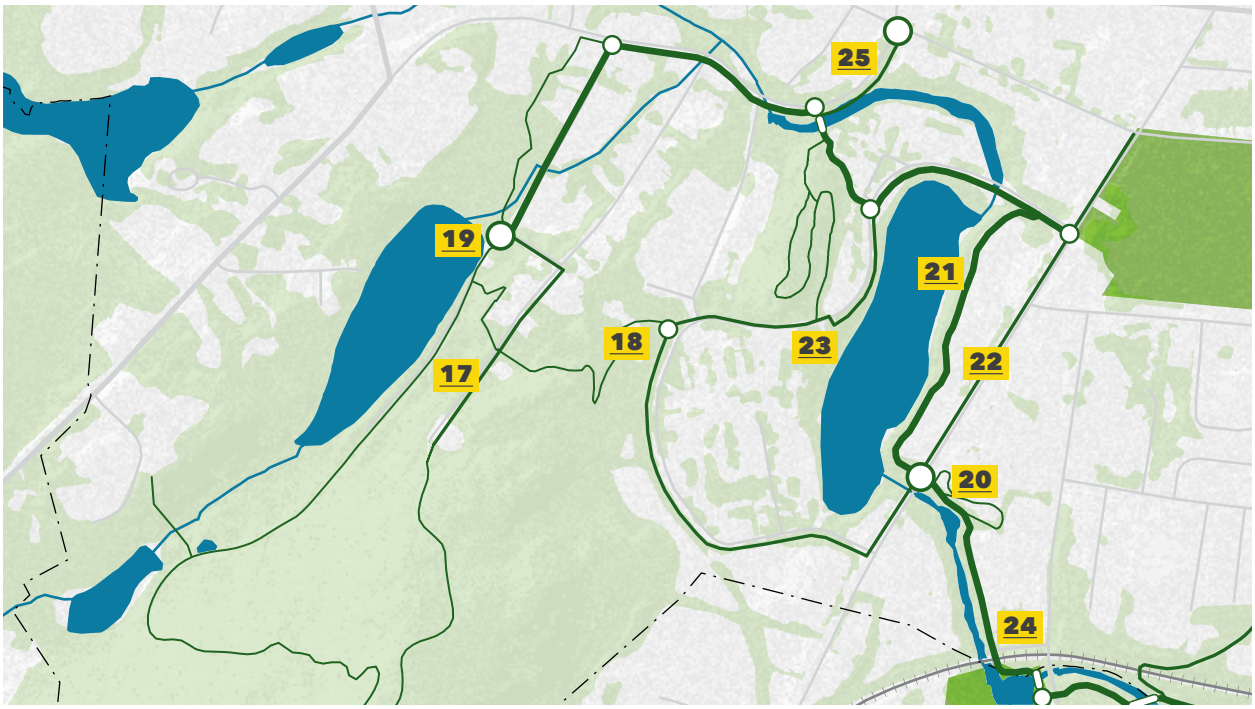


Figure 70. Project locations for Focus Area 4: Creek to Peak. Source: OLIN.

	DEVELOPMENT CONSIDERATIONS	CAPACITY / RESOURCE PARTNERS	COMMUNITY NEED / PRIORITY
	· Ongoing encroachment and park designation review at Crystal Lake · Coordination between City of Newburgh and Town of New Windsor	· Orange County · City of Newburgh (partial owner) · Town of New Windsor (partial owner) · Scenic Hudson (partial owner) · The Sanctuary Healing Garden	Mobility / Connectivity
	· Development proposal in planning review · Scenic Hudson land conservation staff in conversation with landowner	· City of Newburgh · Private real estate firm	Open Space / Access
	· Ongoing programming and lease of land by Ecological Citizens Project and Newburgh Wants a Park Campaign · Lack of public ROW on Temple Ave	· City of Newburgh · NYSDEC for any work along this Class B Waterbody	Habitat Enhancement / Recreation
	· Need to gauge interest/willingness of property owner	· Private landowner	Mobility / Connectivity
	· Area already used for recreation.	· City of Newburgh · Private landowner	Connectivity / Open Space / Recreation
	· Previous studies exist reimagining the street and adjacent development.	· City of Newburgh · NYSDOT Region 8	Mobility / Safety
	· Need to gauge interest/willingness of property owner	· City of Newburgh · Private landowner	Habitat Enhancement
	· Ongoing infrastructure improvements, Riverkeeper's dam removal project, CSX trestle improvement plans	· CSX · City of Newburgh	Mobility / Flood Mitigation
	· Existing park facilities are in disrepair. Park is easily accessed from Broadway.	· City of Newburgh	Open Space / Recreation

5 | CATALYST PROJEC AND OPPORTUNITY SITES

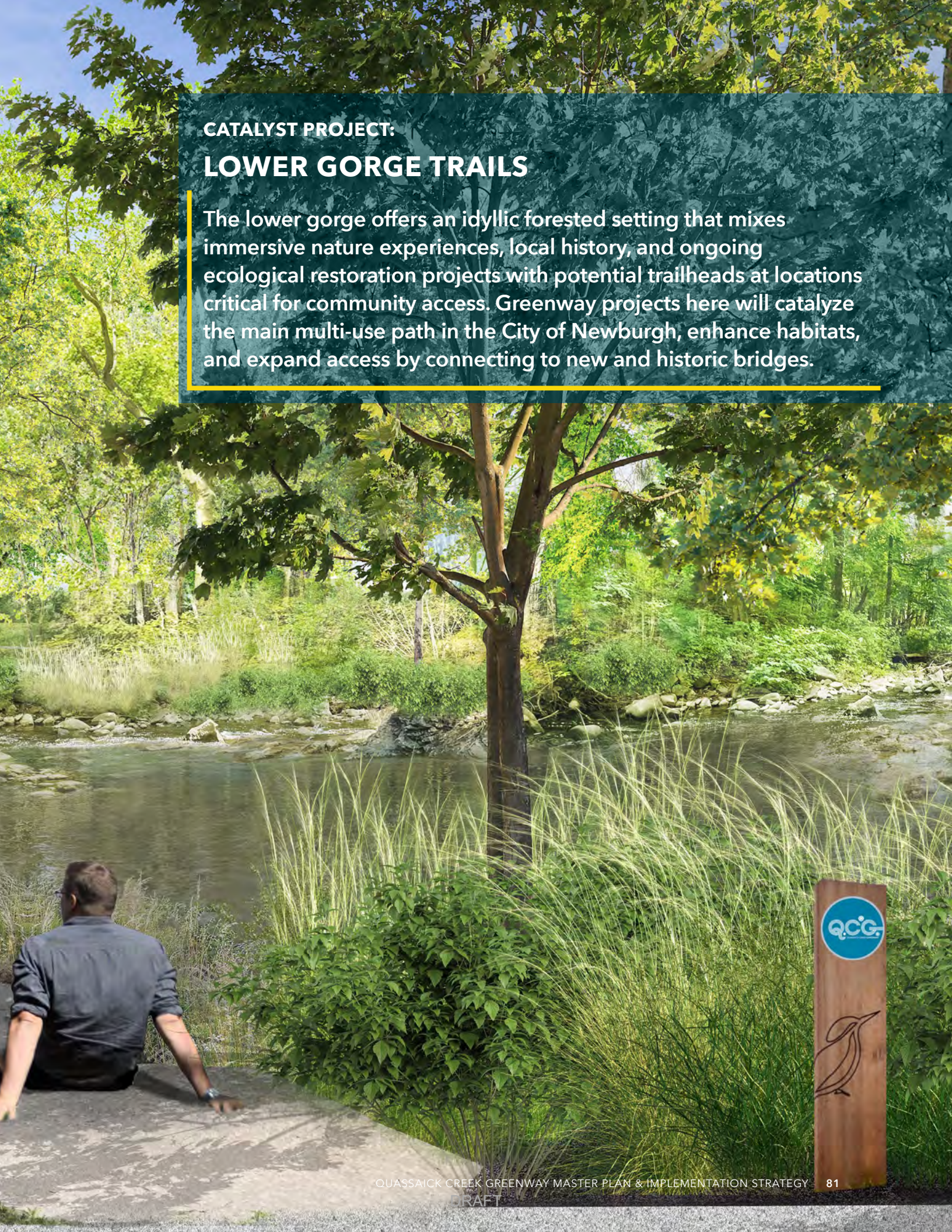
Figure 71. The Lower Gorge Trails area features some of the most high value native forest tree species of the Quassaick Creek corridor. Source: OLIN

The Lower Gorge Trails was identified as the primary Catalyst Project based upon the potential for site control and easements, its priority location for providing safe access and activation, and the capacity of potential project champions. Three additional opportunity projects were also identified for continued advocacy or enabling studies due to alignment with other community or government initiatives. Each of these sites represents a key location within the corridor that can welcome community members to the creek and begin to fulfill the vision of the Quassaick Creek Greenway.


SNAKE HILL CONNECTIONS
LAKE STREET HEALTH TRAIL
Harrison Pond
Little Britain Rd.
Crystal Lake
Muchattoes Lake
Lake St.
Falls Pond
Little
Little Falls Park
Snake Hill Preserve


Broadway
elano-Hitch Park
Mill St.
Liberty St.
Water St.
LOWER GORGE TRAILS
DIAMOND CANDLE FACTORY
RT. 9W
HUDSON RIVER
MAP LEGEND
Trailhead
Entrance
Primary Multi-use Path
Secondary Multi-use Path
Pedestrian Only Path
Alternative Alignment
Reconstructed Bridge
Proposed Bridge
Rail
Local Destinations
Parks / Tree Canopy
Catalyst Site
Opportunity Site
400
2000 FT
200
1000

Figure 72. Conceptual rendering of the Quassaick Creek Greenway Lower Gorge Trails Catalyst Project. Source: OLIN.



CATALYST PROJECT:

LOWER GORGE TRAILS

The lower gorge offers an idyllic forested setting that mixes immersive nature experiences, local history, and ongoing ecological restoration projects with potential trailheads at locations critical for community access. Greenway projects here will catalyze the main multi-use path in the City of Newburgh, enhance habitats, and expand access by connecting to new and historic bridges.

CATALYST PROJECT: LOWER GORGE TRAILS

The Lower Gorge Trails advance long-standing interest by the City of Newburgh to create recreational access to the creek near the Hudson River, supported by private landowners invested in giving back to the local community. Efforts to combine public access easements with utility infrastructure are well underway. Easements through additional adjacent properties also appear feasible in the near term.

The site includes existing access roads that enable minimal disturbance for installation of a greenway while connecting to some of the largest sections of forested and meadow areas in the creek corridor. Access from the community is envisioned at several key points, including Mill Street Bridge, South Middle School path, along Water Street, and along Walsh Avenue west of River Road via a new bridge crossing. The main trunk of the Greenway trail lines the north side of the creek, connecting to a meadow loop, nature classroom, and wooded walk along an existing sewer line easement. Ultimately, integrating safe pedestrian access across Water Street/River Road will enable safe connections between the creek and parks along the Hudson River.

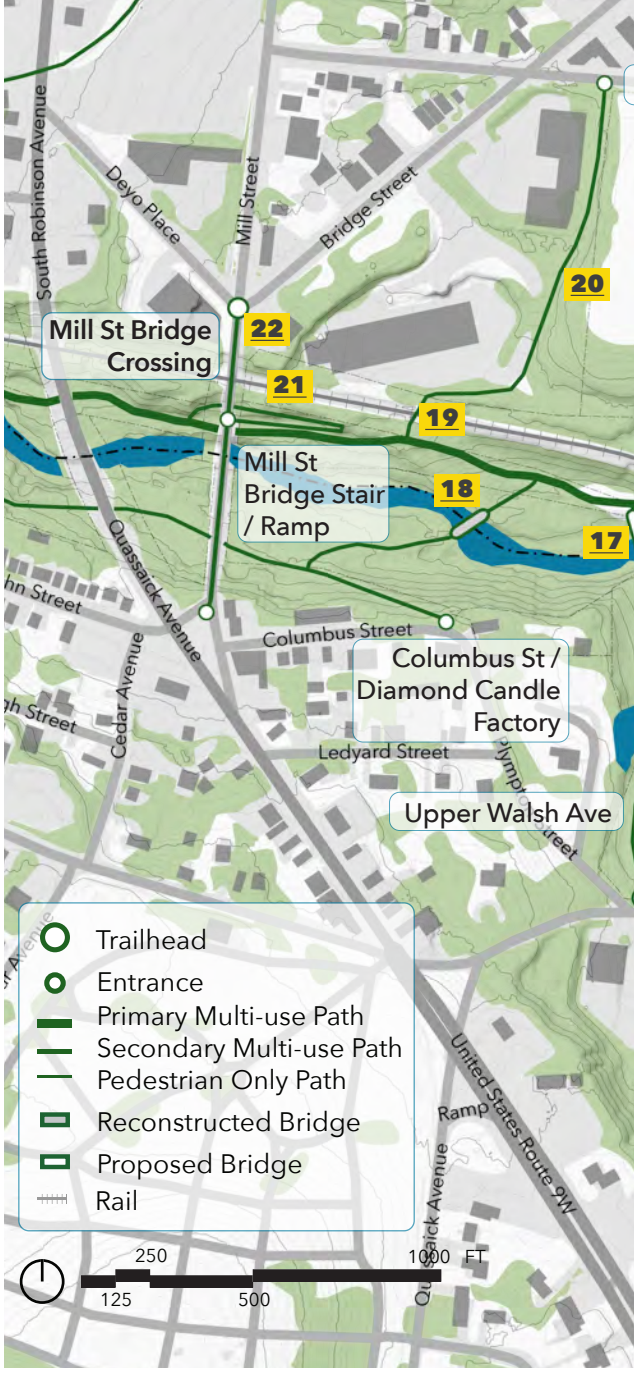


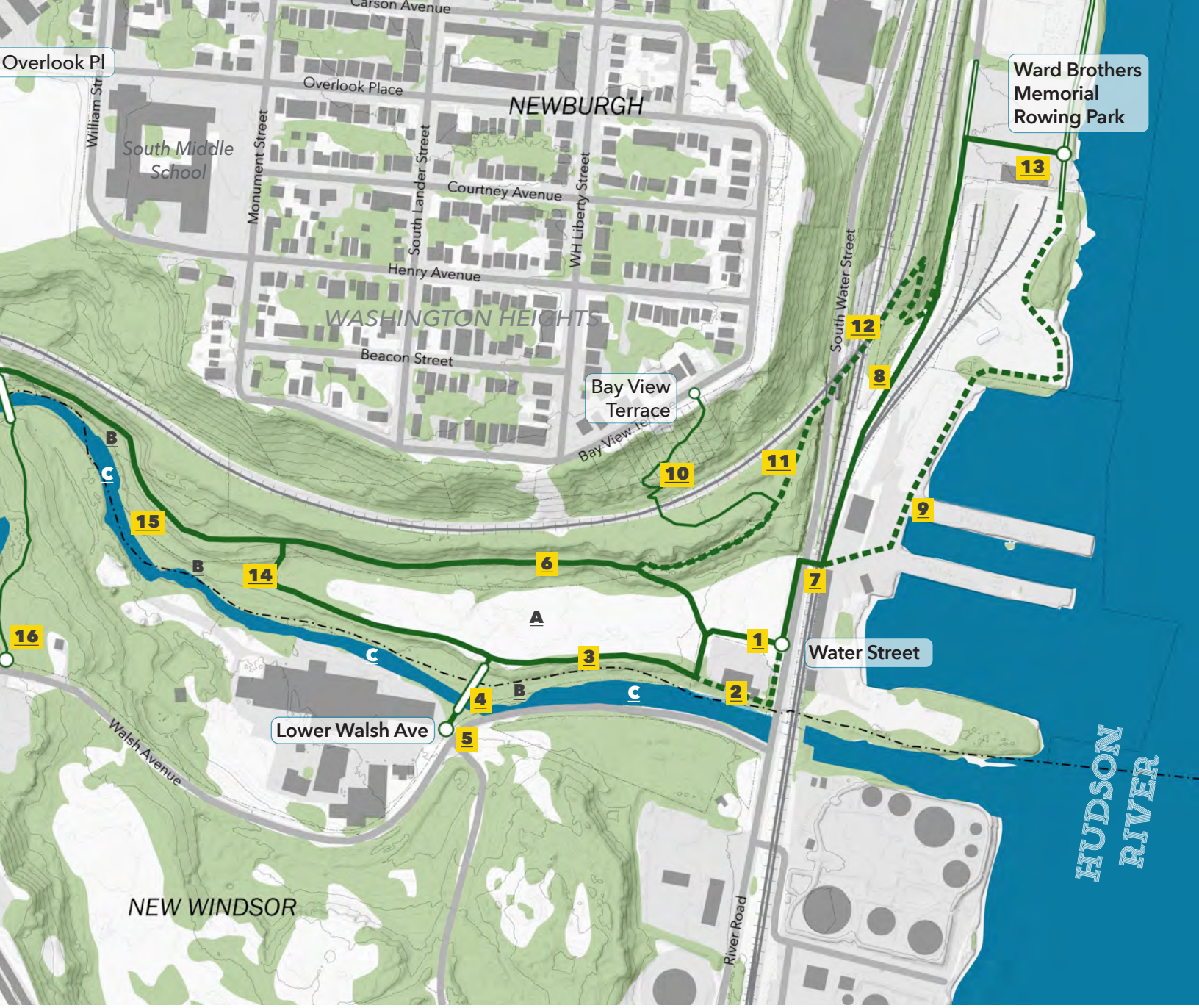
Figure 73. Lower Gorge Trails Catalyst Project. Source: OLIN

Ecological Opportunities

A	**Meadow habitat enhancement**
B	**In-creek habitat enhancements**
C	**Bank stabilization / planting**

Trail Segments and Trailheads

1	**Water Street Trailhead (future easement / private)**
2	**Alternative entry trail (existing easement / Newburgh)**
3	**Creekside Meadow Trail (existing easement / Newburgh)**
4	**Bridge (proposed)**
5	**Trailhead (future easement / private)**
6	**Upper Meadow Trail (future easement / CSX)**
7	**Water Street crossing (traffic controls / Newburgh)**
8	**Waterfront Access Trail (future easement / private)**
9	**Alternative waterfront access (future easement / private)**
10	**Bayview Terrace Trail (CSX crossing)**
11	**Upper Waterfront Access Trail (future easement / CSX)**
12	**Trestle Trail Overpass (Newburgh)**
13	**Ward Brothers Park Trailhead**
14	**Meadow Classroom (easement / private)**



15	North bank connector trail (Newburgh)
16	Alternative Trailhead (easement / private)
17	Bluffwalk Bridge (proposed)
18	Restored Twin Arch Bridge (existing)
19	At-grade crossing (easement / CSX)
20	South Middle School Trail (formalize / easement)
21	Mill Street Bridge Overlook / Ramp (Newburgh)
22	Mill Street / Bridge complete street and crossing improvements (Newburgh / New Windsor)

PROGRAM OPPORTUNITIES

- **Multi-use trail:** new trailheads along public right of ways
- **Habitat:** Bank stabilization / meadow enhancements
- **Creek crossings**
- **Signage:** informational, interpretive, and wayfinding signage
- **Safety improvements:** pedestrian safety improvements at roadways
- **Habitat:** tree and native planting
- **Shade and seating**

Lower Gorge Trails Elements

Concepts for the Greenway Catalyst Project include simple trail design with a focus on accessibility, local materials, minimizing disturbance, enhancing habitats, and providing bilingual wayfinding signage.

The images on these pages are examples of the types and materials that may be used for various elements.

Figure 74. Example of 10′ wide asphalt trail with nearby preservation area, meadow planting, and mown shoulder, Sojourner Truth State Park. Source: OLIN.

Figure 75. Example of compacted stone fines secondary trail with meadow planting and seating area, Sojourner Truth State Park. Source: OLIN.

Figure 76. Elevated ADA-compliant accessible ramp; example of a potential access element with minimal forest disturbance proposed for the Mill Street Bridge Trailhead. Source: OLIN.

Figure 77. White oak and steel bench, Sojourner Truth State Park. Example of potential trail seating. Anchoring is not needed given the weight and can be installed on aggregate or concrete pad. Source: OLIN.

Figure 78. Bilingual signage, Sojourner Truth State Park. Example for wayfinding and strategy for protecting habitat preservation or enhancement areas. Source: OLIN.

Existing Conditions

- Biodiversity Assessment: The Lower Gorge Trails site includes upland hardwood forest, waste grounds (though generally overgrown with mugwort with a few native perennials), upland shrubland, and upland meadow. This site includes some of the most high-value native forest tree species designated for preservation.

  The site has been primarily wooded until recently, with a large area of the north side of the creek cleared, graded, and stabilized for presumed infrastructure construction laydown. This area is now dominated by mugwort over a gravel base. Restoration will require soil building strategies and/or amendment imports.

  NYSDEC wetlands mapper shows two freshwater wetlands to the south of the creek. Coordination with NYSDEC would be necessary for any work around these wetlands, though nothing is planned at this time.

- Environmental Conditions: While industrial properties are known to exist on the parcels within this site, the environmental database shows minimal recorded environmental concerns. It is assumed that most parcels were used for rail infrastructure and construction laydown areas.

- Utilities/Infrastructure: The City of Newburgh maintains two sewer trunk lines that extend through the site, one at the edge of the creek and one further north towards the upland. Combining more public access overlays on sewer infrastructure easements would allow a connective walking loop. However, a CSX rail line continues to pose challenges to new access routes to the north of the creek.

  A private parcel includes a building along the creek edge at the intersection with Water Street. This parcel should be further investigated as an ideal location for a trailhead.

  Adapting the two historic bridges, Mill Street Bridge and Twin Arch Bridge, as part of the greenway will provide ideal access and creek crossing points. Both will require structural investigations, stabilization, and coordination with the State Historic Preservation Office.

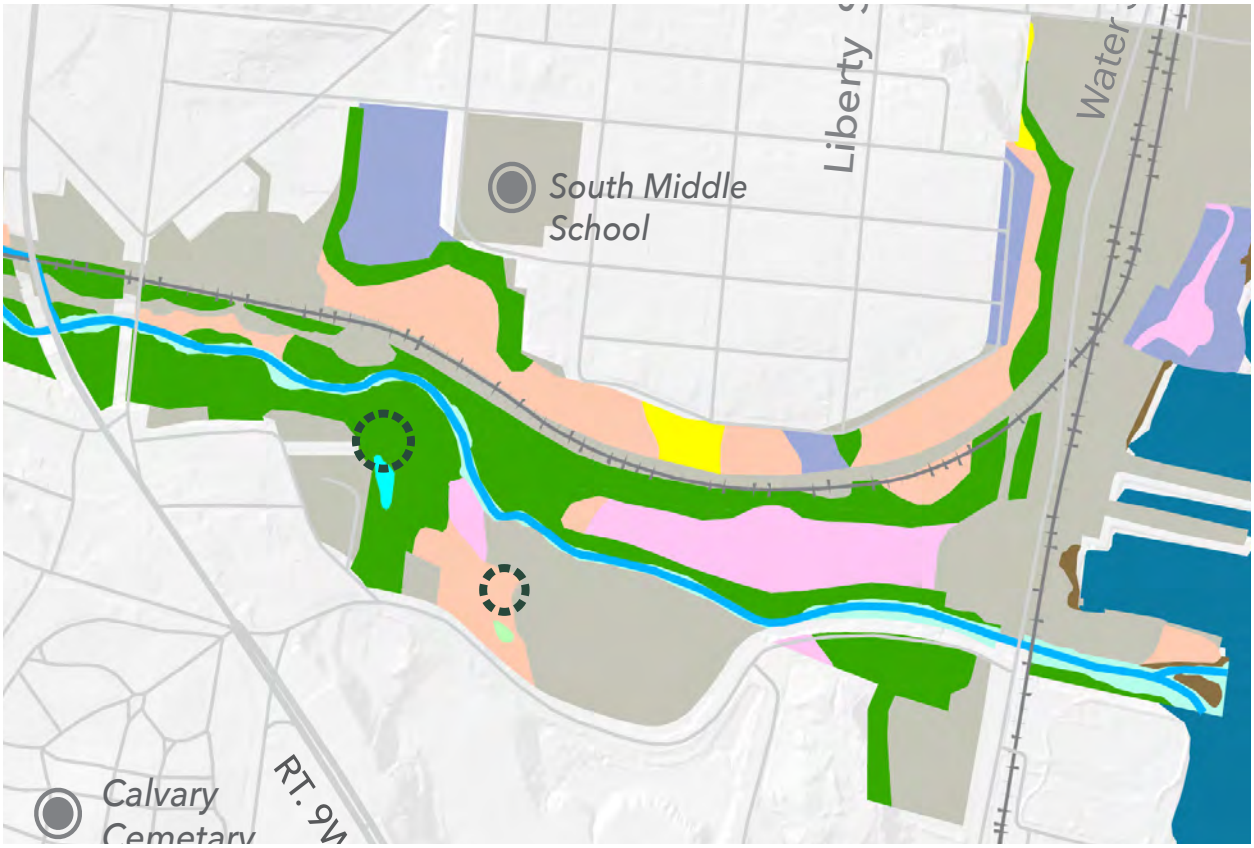


Figure 79. Habitat Inventory. Source: Hudsonia.

Management Strategy

- The Greenway will be connected through filling the gaps of existing trails. Management will focus on trail conditions, reduction of debris and litter, and reducing scour conditions at the creek.
- Programming will predominantly focus on the trail use itself.
- Parking and cycling will need some consideration as well as lighting and minimal monitoring of the trail.
- Biodiversity assessments, water quality monitoring, native plantings, and erosion control are envisioned as periodic or seasonal opportunities tied to community partnerships.

Next Steps and Recommended Investigations

- Properties: Access rights and site investigations are an ongoing effort tied to securing contiguous trail access and alignments and trailhead areas.

  Review easement with City to determine if easement is adequate to co-locate a trail and conduct feasibility of trail construction within easement area.

- Access/Traffic Investigations: Traffic studies at Mill St Bridge to design for pedestrian and bike safety (City of Newburgh). The intersection is currently poorly defined with little separation for pedestrian use. The bridge itself could be redesigned for one-way traffic to provide space for pedestrian and bike lanes without needing the repair of the cantilevered walks in poor condition.

  Traffic studies at Water Street / River Road / Walsh Ave (City of Newburgh and Town of New Windsor). Traffic controls and pedestrian improvements are needed at the intersection of the roadway and the creek to enable safe crossing of the Greenway.

  Site investigations and property ownership confirmation of the informal path leading to South Middle School field.

- Structural Investigations: Structural and historic preservation investigation of Mill Street Bridge to determine capacity for integrating a ramp or stair to the Greenway; determine the feasibility of restoring the cantilevered walkway.

  Structural investigation, historic preservation, and stabilization recommendations for the Twin Arch bridge for future creek crossing. A management schedule and identification of a responsible party is needed for managing buildup of debris within bridge arches within the creek.

  Structural Investigations of the sewer trunk line along the bank at the private property west of Water Street.

- Hydrology/Civil Investigations: More detailed investigations of bank conditions and recommendations for stabilization specific to each condition. Studies conducted for dam removal upstream by Riverkeeper may be useful to modeling downstream effects.

  Pre-Application Discussions with NYDEC regarding any stream bank disturbance and potential for a new bridge crossing.

- Community Engagement: Continue community, stakeholder, and property owner engagement during all future phases of design. Celebrate the significance of this trail opportunity as the 'spark' of the Greenway.

  As part of these activities building a nascent stewardship partner with the City can help ensure the longevity of the Greenway's success.

< Habitat Inventory Legend

- Streams
- Wet Meadow
- Hardwood & Shrub Swamp
- Intermittent Woodland Pool
- Marsh
- Stream
- Tidal Tributary Mouth
- Constructed Pond
- Gravely-Sandy Shore
- Rocky Barren
- Upland Hardwood Forest
- Upland Meadow
- Upland Shrubland
- Cultural
- Developed
- Waste Ground
- NYSDEC Freshwater Wetlands

Key Partners / Stewards

- City of Newburgh
- Town of New Windsor
- Orange County
- Orange County Land Trust
- QCWA
- Private Property Owners
- CSX
- NYSDOT
- NYSDEC
- OPRHP

LOWER GORGE TRAILS ESTIMATED PROJECT COSTS

Base Greenway Trail Project

Primary Trail and Trailheads	$1,987,729
Secondary Trail	$345,982
Planting / Meadow Enhancement	$2,381,339
Site Furnishings	$585,897
BASE TOTAL	$5,300,946

- Trailhead Parking: gravel parking area for 10 cars, wooden sign kiosk, bioswale, bike racks.
- Primary Trail (Pedestrian and Bike): 10' wide asphalt trail with 1' wide gravel shoulder and stormwater swale; trail culverts where needed for drainage; minimal grading.
- Secondary Trails (Pedestrian only): 6' wide compacted stone fines with wood treads for steeper sections; assume 25% of Secondary Trails are steep.
- On-road portion of Primary Trail: 10' wide striping of existing asphalt paving.
- Planting / Meadow Enhancement: Amendment with 4" of low nutrient planting soils, compost, and mulch to the existing gravel base. Seed with meadow species and cover crop at 20 lbs/acre and overseed with 10 lbs/acre the following season.
- Site Furnishings and Signage: Wood benches, directional signs, rules signs, interpretive signs.

Additional Access Elements

Mill Street Bridge Ramp	$2,894,780
Private Property Bridge 1	$2,070,600
Private Property Bridge 2	$1,705,200
Trestle Walkway	$1,847,300
Trailhead Lighting	$303,888
Water St Pedestrian Crossing	$68,881

- Mill Street Bridge Ramp Access: ADA compliant, elevated ramp from Mill Street Bridge to the Greenway Trail.
- Lower Gorge Bridge #1: 10' wide 170 linear foot prefabricated steel bridge with wood plank surface on concrete abutments.
- Lower Gorge Bridge #2: 10' wide 140 linear foot prefabricated steel bridge with wood plank surface on concrete abutments.
- Trestle Walkway: Cantilevered walkway anchored to existing railroad trestle bridge
- Trailhead Lighting: Two light poles and power connections to each of the six trailheads.
- Water Street Pedestrian Crossing: Crosswalk and self-activated pedestrian flashing lights to improve safety of crossing Water Street.

Cost Estimate Mark-ups and Considerations

- The cost of construction typically includes additional costs beyond the materials and labor for the project. Included in the estimate are markups for general conditions (a contractor's project management, temporary facilities, equipment rentals, site operations, etc), contractor's overhead and profit, insurance and bonds, escalation (increase in cost over time), and contingencies (additional money to cover unknown conditions). Percentages are noted in the chart to the right and have been added to and compounded within the construction costs shown above. However, given the unknown date of construction, escalation percentages have not been added and should be considered when a start date is known.
- Costs for any necessary land acquisitions have not been included in the cost estimate and may be an additional consideration.
- Soft Costs include additional costs for design fees, permitting, and testing that are not accounted for in the construction cost estimate. Soft Costs can amount to approximately 10%-15% of the construction cost and should be included in budget considerations. These costs are not included in the construction costs shown above.

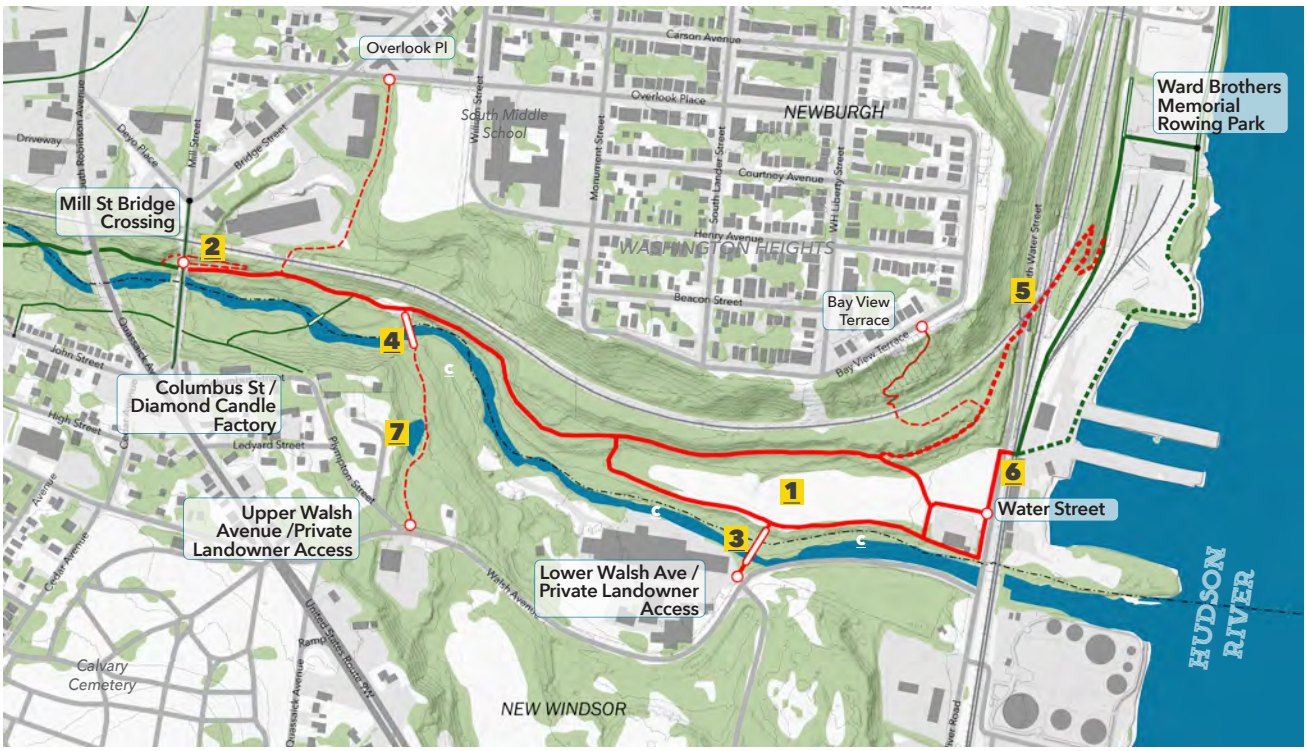


Figure 80. Cost Estimate Key Map. Source: OLIN.

- Trailhead
- Primary Multi-use Trail
- Secondary Pedestrian Trail
- Proposed Bridge

1. Planting / Meadow Enhancement
2. Mill Street Bridge Ramp
3. Bridge #1
4. Bridge #2
5. Cantilevered Walkway on Trestle Bridge
6. Water Street Pedestrian Crossing
7. NYSDEC Jurisdictional Wetland

- Additional budget should be allocated for fees associated with the following Investigations:
  - Geotechnical investigations for all bridge work
  - Hydraulic/hydrologic studies for new crossings
  - Structural engineering for bridges/tressle
  - Traffic study to warrant pedestrian crossing and traffic reconfiguration changes.

General Conditions	10%
Gen. Contractor's Overhead+ Profit	21%
Design Contingency	20%
Insurance / Bond	2%
Escalation to the Midpoint	8%
Escalation Rate 4% per year	not included
Bid Contingency	5%
Construction Contingency	10%

Figure 81. Conceptual rendering of the Quassaick Creek Greenway Diamond Candle Factory Opportunity Site.

OPPORTUNITY SITE:

DIAMOND CANDLE FACTORY

One of the most dramatic sites deep within the Quassaick Creek gorge, the former Diamond Candle Factory area offers a mix of industrial history and recovering habitat near existing access from both Newburgh and New Windsor.

OPPORTUNITY SITE: DIAMOND CANDLE FACTORY

The former Diamond Candle Factory site provides easy creek access along a flat area of bank within the lower gorge area, connected by an existing former roadbed from Columbus Street. This area offers a rich sense of discovery of both the creek itself and the industrial remnants that tell the recent history of the creek's cultural significance. Access from both the Town of New Windsor and the City of Newburgh via the existing roads and bridges makes this site ideal for connecting neighborhoods to the Greenway.

The Greenway will reuse existing access roads and flat lands within the floodplain, connecting to the historic Twin Arch Bridge and highlighting iconic landmarks such as the former chimney. Floodplain plantings will help enhance the riparian habitat and stabilize the creek banks. Connections to the Holden Dam removal and restoration site should be an integral aspect of the design of the project.

Environmental remediation is first required to make the site safe for recreational use. Beginning the process of funding the cleanup will enable future expansion of the Greenway to include this unique park area. As the property owner, Orange County has conducted initial environmental investigations and is invested in seeking funds for implementing site clean up for reuse.

Existing Conditions

- Biodiversity Assessment: This former industrial site, like much of the Lower Gorge, is now heavily forested with Upland Hardwood forest being the primary habitat type.

- Environmental Conditions: A Phase I Environmental Site Assessment notes a history of industrial uses on this site by paper mills, woolen mills, and beeswax candle manufacturing. Byproducts from these former operations remain present on the property, in addition to structures such as former building foundations, metal pipes, and underground storage tanks. Specific information about groundwater is not available, though it is possible that groundwater discharges from several adjacent historical industrial land uses have impacted groundwater on site. A Phase II assessment is recommended. This assessment would include surface and subsurface soil and groundwater testing, identify post-industrial relics, confirm the type, locations, and quantities of hazardous materials, and develop recommendations for remediation necessary for future uses as a recreation site.

- Utilities/Infrastructure: Utilities and Infrastructure here are largely unknown at this time, however, some features related to past industrial uses on the site remain and require further investigation, such as ground penetrating radar (GPR) study.

Management Strategy

- Debris removal and restoration of the historic stone Twin Arch Bridge spanning the creek. Maintenance and restoration should be coordinated with SHPO.

Next Steps and Recommended Investigations

- Conduct Phase II Environmental Site Investigations based upon recommendations provided in the Phase I Report dated February 8, 2016.
- For Environmental Protection Agency (EPA) Brownfield or state brownfield programs; after Phase II, planning for a remedial investigation feasibility study would be undertaken in concert with regulatory partners including NYSDEC and NYSDOH.
- Seek funding for site remediation aligned with community health and safety, environmental/ ecological restoration, and implementation of nature-based recreation.
- Coordinate potential planning opportunities and concepts for funding with the planning initiatives of adjacent property owners and partners in the Greenway, such as the City of Newburgh and Town of New Windsor.

Key Partners / Stewards

- Orange County
- Orange County Land Trust
- Quassaick Creek Watershed Alliance
- NYSDEC
- NYSDOH
- EPA

Ecological Opportunities

A	**Bank stabilization / planting**
B	**In-creek habitat enhancements**

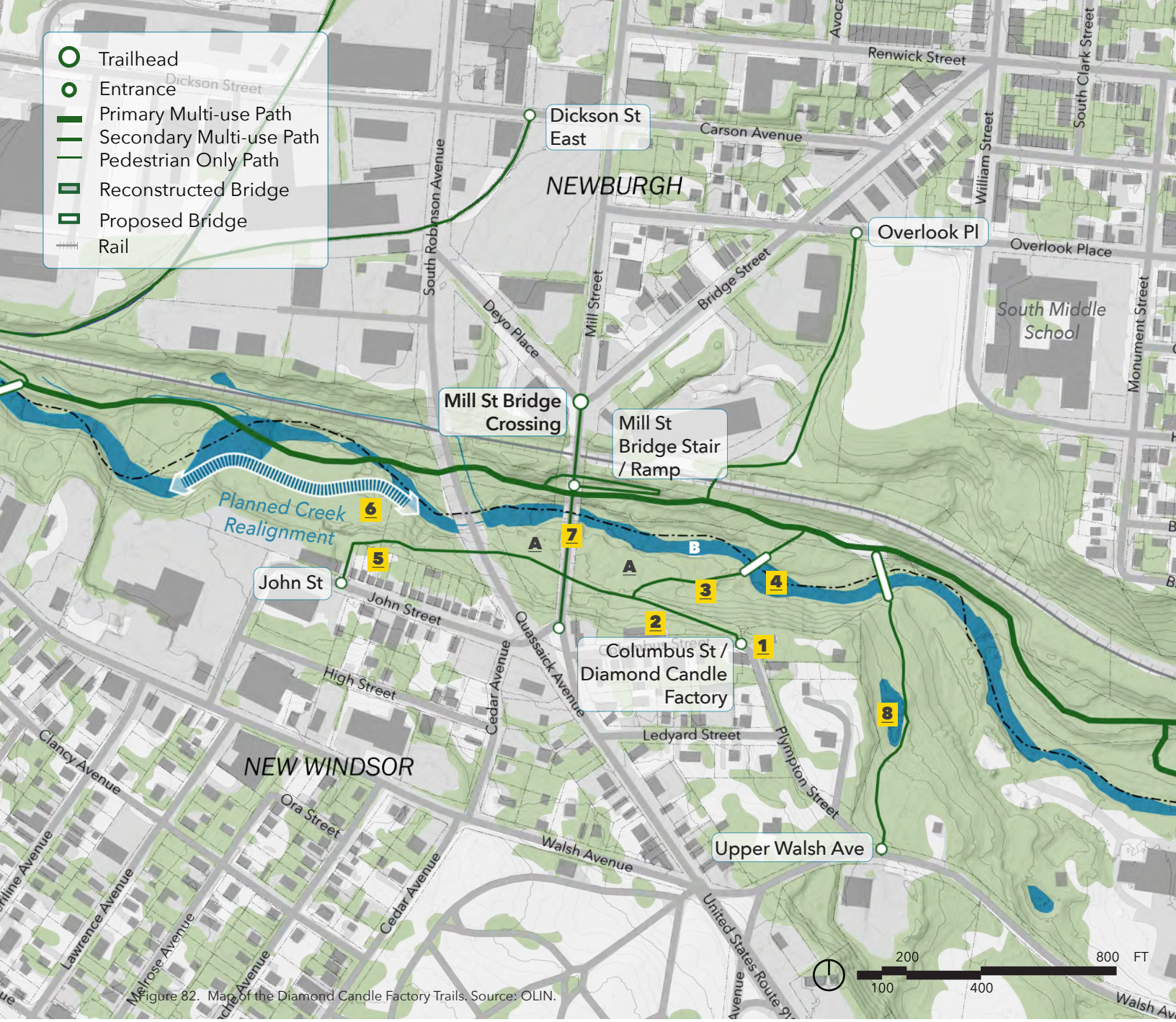


Figure 82. Map of the Diamond Candle Factory Trails. Source: OLIN.

Trail Segments and Trailheads

1	Columbus Street Trailhead (easement / private)
2	Diamond Candle access trail (existing)
3	Twin Arch Bridge Trail (Orange County)
4	Twin Arch Bridge restoration
5	John Street Access (easement / private / dam project access)
6	Holden Dam removal and creek realignment project (City of Newburgh / Riverkeeper)
7	Mill Street Bridge access improvements (City of Newburgh / Town of New Windsor)
8	Jurisdictional Wetland

PROGRAM OPPORTUNITIES

- **Shade and seating**
- **Signage:** informational, interpretive, and wayfinding signage
- **New multi-use trails and creek crossings**
- **Habitat:** in-stream habitat
- **Improved health and safety**
- **Habitat:** tree and native planting
- **Views:** dramatic views of the creek
- **Bird watching**

Figure 83. Conceptual rendering of the Quassaick Creek Greenway Lake Street Health Link Opportunity Site. Source: OLIN

OPPORTUNITY SITE:

LAKE STREET HEALTH LINK

Near Lake Street in the heart of downtown Newburgh, the Greenway trail expands to include amenities aimed at promoting physical and mental health along with improvements for biodiversity, including a walking loop trail with native meadows, a rain garden, nature play structures, and places to sit along the creek. Greenway projects here can expand to connect Delano Hitch Park, Newburgh's neighborhoods, and future complete street improvements along Lake Street and Broadway.

OPPORTUNITY SITE: LAKE STREET HEALTH LINK

An open and underutilized lawn area between the creek and a parking lot presents an ideal early implementation opportunity. It is positioned at a key location in the Greenway corridor that can catalyze connections west to Lake Street–with its commercial strip, connection to Delano Hitch Park, and the main artery of Broadway–and east to Mullins Apartments.

Building upon the proximity to a community health center, the project is envisioned as a recreational space catering to physical and mental health with walking trails and play spaces. Trees and floodplain plantings and stone perches can provide a connection to a restored riparian edge.

Beyond connecting the Greenway, the collection of potential projects here could help spur improved development and community services on underutilized sites along Lake Street. The Greenway should integrate flood protection measures as it extends along the Mullins Apartments property to protect residents from creek flooding.

Existing Conditions

- Biodiversity Assessment: Upland Hardwood Forest dominates much of the site and surrounding areas that aren't developed. Adjacent and down river of the impoundment, Muchattoes Lake, this site could serve as an important ecological connection between the Lower Gorge corridor and large habitat areas of upland forest and wetland habitats.

- Environmental Conditions: The site is part of the former Chadwick Bros Bleachery complex that spanned Lake Street and the creek and formed the impoundment that is now known as Muchattoes Lake. Past industrial uses here could have soil impacts below the current development that would need to be considered should site disturbance be anticipated. Existing documentation of site redevelopment for the health center should be obtained and reviewed as part of site design. A Phase 1 Environmental Site Assessment is recommended for any potential site design changes or property transactions.

- Utilities/Infrastructure: Utilities and infrastructure here are largely unknown at this time.

Management Strategy

- Biodiversity assessments, water quality monitoring, native plantings, erosion control, and in-stream habitat interventions are envisioned as periodic or seasonal opportunities tied to community partnerships.
- Typical trail maintenance, trash removal, and upkeep of site and play furnishings.
- Flood monitoring.

Next Steps and Recommended Investigations

- Property owner negotiations and conservation easement explorations.
- Phase 1 Environmental Site Assessment.
- Obtain Hydrologic and Hydraulic studies by others to understand impact of creek flood conditions at site and Mullins Apartments.
- Obtain documentation of adjacent projects such as bridges and CSX abutments.
- Coordinate planning for complete streets along Lake Street with the City of Newburgh and NYSDOT

Key Partners / Stewards

- Private Landowner
- City of Newburgh
- Newburgh Housing Authority
- Riverkeeper
- NYSDOT

Trail Segments and Trailheads

1	**Creekside Trail (easement / private owner)**
2	**Health Loops (easement / private owner)**
3	**Lake Street Trailhead and Complete Street crossing (City of Newburgh)**
4	**Mullins Apartments connection and flood protection (Newburgh Housing Authority)**

Ecological Opportunities

A	**Bank stabilization / planting**
B	**In-creek habitat enhancements**

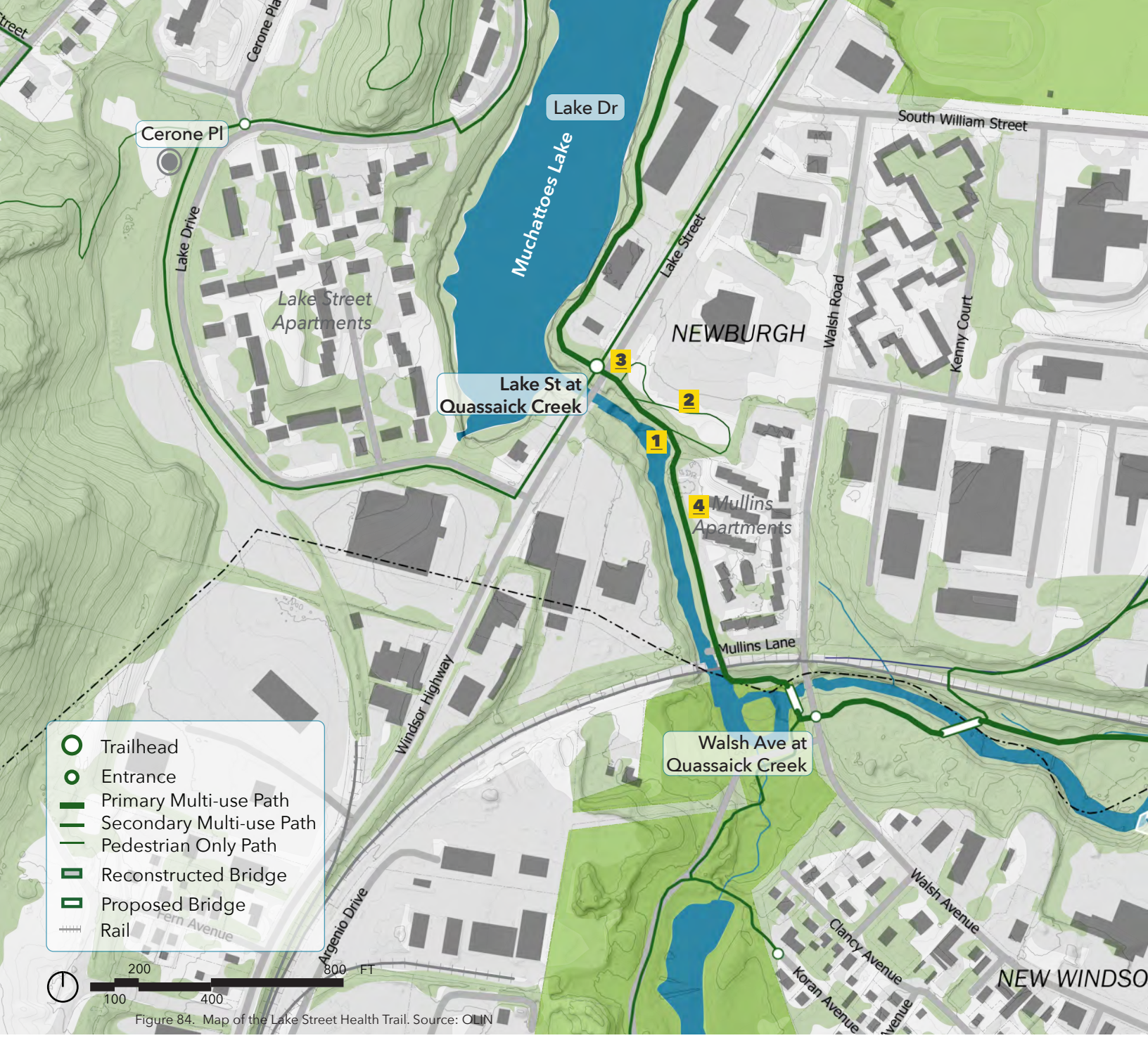


Figure 84. Map of the Lake Street Health Trail. Source: OLIN

PROGRAM OPPORTUNITIES

- **Shade and seating**
- **Multi-use trail:** demonstration greenway and ADA walking loop trail
- **Multi-use trail:** new trail from Mullins Courtyard Apartments to Lake Street
- **Nature play area**
- **Habitat:** tree and native planting
- **Habitat:** creek realignment and habitat restoration
- **Signage:** informational, interpretive, and wayfinding signage

Figure 85. Conceptual rendering of the Quassaick Creek Greenway Snake Hill Connections Opportunity Site

OPPORTUNITY SITE:

SNAKE HILL CONNECTIONS

Existing trails at Scenic Hudson's Snake Hill Preserve offer unique access to unfragmented forest in Newburgh and New Windsor with sweeping views of the river and Hudson Highlands. Expanded trail access and community programming near Crystal Lake would enhance access to water in the corridor and the biodiversity found at Snake Hill Preserve. Here, the Greenway could offer improved access to existing and community uses at the Sanctuary Healing Gardens, uphill hiking trails to the Snake Hill summit, and a popular recreational fishing site.

OPPORTUNITY SITE: SNAKE HILL CONNECTIONS

Snake Hill Preserve and the Sanctuary Healing Gardens at Crystal Lake are existing community programs and destinations along the Greenway. The project here amplifies existing community initiatives, leverages existing parks and trails in the implementation of the Greenway, and extends the Greenway to parks in New Windsor. Crystal Lake was once a community lakeside attraction for leisure and gathering; this history can be tied to the future social infrastructure of a community gathering space that connects to unique destinations along the Greenway, accessible from multiple neighborhoods.

Envisioned improvements include expanding the parking area, adding interpretive signage and trail kiosks, providing seating and bike infrastructure, and highlighting the vegetation as it transitions from the riparian corridor to the forested uplands of Snake Hill.

Existing Conditions

- Biodiversity Assessment: According to the Hudsonia Biodiversity Inventory, the Snake Hill Connection site includes the largest intact area of Upland Hardwood Forests found in the project area with Scenic Hudson's Snake Hill Preserve. Amongst the woodlands the top of the hill is marked by Rocky Barrens, while the west side of the hill includes Hardwood and Shrub Swamps that are part of the drainage leading to the impoundment of Crystal Lake. Some of the highest occurrences of rare species of plants, animals, and insects were observed in the Snake Hill area.

- Environmental Conditions: Anecdotally, the water quality of Crystal Lake could be improved, and there has been community desire to implement restoration or enhancements. Trees for Tribs planting has been implemented along the banks of Crystal Lake near Sanctuary Healing Gardens by the QCWA. No lake improvements can be implemented until property encroachments of the lake property have been resolved by the City of Newburgh.

- Utilities/Infrastructure: A water tower is located on the slopes between Snake Hill Preserve and the Ellis Ave Development. Roads in the area that can provide on-street Greenway connections are too steep to be considered ADA compliant. Other utility infrastructure has not been found in publicly mapped resources; coordination with the City of Newburgh will be necessary to identify utilities.

Management Strategy

- Management will focus on trail conditions, management of debris and litter.
- Programming will predominantly focus on the trail use itself.
- Parking and cycling will need consideration, as well as lighting and minimal monitoring of the trail.
- Biodiversity assessments, water quality monitoring, native plantings and erosion control are envisioned as periodic or seasonal opportunities tied to community partnerships.

Next Steps and Recommended Investigations

- Due diligence by the City of Newburgh to resolve property encroachments on City land. Once encroachments are resolved, next steps in park dedication, open space planning, and community engagement will be possible.
- Feasibility study for expanding parking in a way that does not disturb the lake or riparian buffer areas.
- Water quality and sediment testing of the lake. Explore water quality improvements and vegetation buffer enhancements, including wetland edge creation.
- Continue work with active development projects and private property owners in the area to integrate Greenway alignment into site planning and approval processes.
- Conduct traffic and accessibility studies for on-road portions of the Greenway to implement the most accessible routes, where possible, and safe designation of bike and pedestrian routes.

Key Partners / Stewards

- City of Newburgh
- Newburgh Wants a Park / Sanctuary Healing Garden
- Scenic Hudson
- Private Developers

Ecological Opportunities

A	**Water quality improvements**
B	**Buffer and wetland edge plantings**

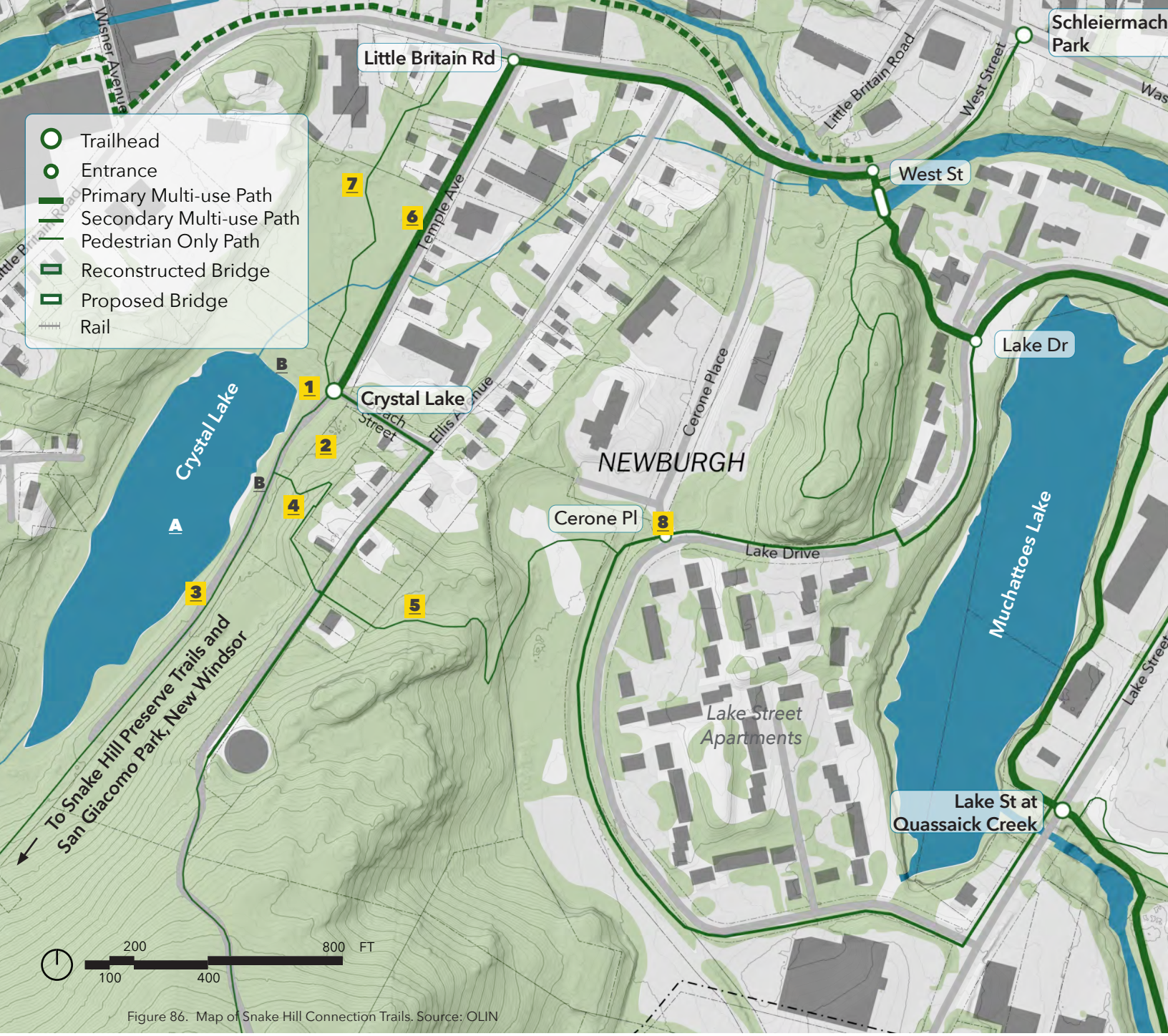


Figure 86. Map of Snake Hill Connection Trails. Source: OLIN

Trail Segments and Trailheads

1	Crystal Lake Trailhead
2	Sanctuary Healing Gardens
3	Existing Snake Hill Trail
4	Proposed Connection from Ellis Ave
5	Proposed trail integrated with Ellis Ave Housing Development
6	On-Street Trail at Temple Ave
7	Future Connection to Little Britain Road

PROGRAM OPPORTUNITIES

- Shade and seating
- Snowshoeing and mountain biking
- Integration with community programming
- Recreational fishing
- **Habitat:** tree and native planting, plus conservation
- **Multi-use trail:** new trail along Temple Ave
- Signage: new welcome, informational, and wayfinding signage
- **Views:** dramatic viewshed

TABLE OF FIGURES

APPENDICES

Appendix A: Ecological Assessment Report

Appendix B: Community Engagement Narraive

Appendix C: Catalyst Project Cost Estimate

Other References available from Scenic Hudson:

Quassaick Creek Greenway Feasibility Study, Thread Collective and MUD Workshop, April 2023

Quassaick Creek Biodiversity Report and Inventory, Hudsonia, November 2025

Bibliography of Past Projects