

Chemung River Trail

River Trail Assessment & Comprehensive Master Plan



Prepared for:
City of Elmira, NY & Chemung County
Waterfront Advisory Committee

February 2008

Prepared by: HAAS Landscape Architects
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CHEMUNG RIVER TRAIL RIVER TRAIL ASSESSMENT & MASTER PLAN

**for the
Chemung River Basin
in Chemung County, NY**

including the following municipalities:

Town of Big Flats
Town of Elmira
City of Elmira
Town of Southport
Town of Ashland
Town of Chemung

Final Report
February, 2008

Prepared for:

City of Elmira and Chemung County Waterfront Advisory
Committee

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Town of Big Flats	Town of Elmira
City of Elmira	Town of Southport
Town of Ashland	Town of Chemung

Special thanks to the City of Elmira for facilitating funding for this project.

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I. BACKGROUND SUMMARY & GOALS

A. Introduction

The Chemung County Waterfront Advisory Committee, formerly the Chemung County River Council, is a collaborative six (6) municipality and community-based steering committee that was formed to follow up on a 2004 community visioning project and provide leadership for the Chemung River Master Plan that includes designs related to recreation and tourism, river access, historic and cultural ties, economic development, and local and regional identity.

The consultant team was commissioned to synthesize the information gathered from municipalities, stakeholders and the Waterfront Advisory Committee with the results of inventory and site reconnaissance to develop a Master Plan that contains key, buildable, short-term projects, and presents a compelling long-term vision. A planned network that combines multi-use trails, nature trails, on-road bikeways and scenic byways, and waterway trails to tie key destinations and water access points is expected to provide momentum for implementing key short-term projects along the River greenway. Various strategies for realizing the Master Plan are offered for consideration in Chapter IV. The future of the Plan depends on the level of organization and intermunicipal cooperation, funding available and degree of organization the County and other government entities are willing to commit in support of the Local Waterfront Revitalization Program policies. Appropriate design standards, including signage, pavement types, widths, ramps, and edge treatments must be considered to provide a safe and cohesive network. These will be explained in Chapter V, Trail Design Standards.

The City of Elmira and five (5) river Towns are in a unique situation as additional funds continue to become available from a variety of Federal and State sources for trail and waterfront development. As part of this planning effort funding sources were compiled and provided to the Waterfront Advisory Committee for consideration. The City of Elmira and Chemung County have a long history and support of trails as demonstrated by the numerous plans prepared in the past twenty years to initiate and coordinate multi-modal trail developments. The plans are listed below and described in the ‘Summary of Relevant Plans’ (Section D), later in the Chapter:



- File Chronology: Chemung County Matching Grant Award (NYS Environmental Quality Bond Act) Gateway Living History Park Project (1987-1989)
- Development Plan: Pirozzolo Park, Town of Elmira (June 1989)
- Rail Trails in Chemung County (Draft) – Master Plans for the Development of Multi-Use Trails in Big Flats and Horseheads/Elmira (November 1995)
- Chemung River Report to the Community (August 2004)
- Final Report: Chase-Hibbard Dam, Fish Ladder and Portage Study (September 2006)
- Chemung River Greenbelt – NYS 2006 Open Space Conservation Plan
- Lackawanna Trail (2005 - 2007)

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Other relevant plans or proposals include:

- Catherine Valley Trail
- Promenade
- Chemung Basin River Trail Partnership

The development of flood control features back in the 1970's is responsible for limiting recreational opportunities and physical access to much of the waterfront within the Town and City of Elmira. Reduced physical and visual connection has resulted in the loss of appreciation and contact with the River. The planning of the Downtown Promenade and the future rehabilitation of buildings overlooking the Mark Twain Riverfront Park, will bring the potential of the connection of the urban core to riverfronts, back into the public realm. An annual River Fest and regular clean-up efforts have promoted new interest in the Chemung River as a community asset rich in cultural history and environmental education. Communities across the country are recognizing that their waterfronts can increase economic prosperity, tourism, and quality of life for their residents.

Background & Setting

Chemung County is located in south-central New York with a population of about 91,000 (U.S. Census 2000). The Chemung River flows across the lower end of the County for approximately 38 miles. Chemung County has one (1) city (Elmira), eleven (11) towns (Ashland, Baldwin, Big Flats, Catlin, Chemung, Elmira, Erin, Horseheads, Southport, Van Etten and Veteran) and five (5) villages (Elmira Heights, Horseheads, Millport, Van Etten and Wellsburg). The area is ideal for trail use with gently rolling hills, broad, flat valleys, a major city, and many smaller towns and villages. The region is served by major highways, active and abandoned railroad lines, bus lines, and a regional airport. Adjacent New York counties including Steuben and Tioga, and Bradford County in nearby Pennsylvania all have recent history of promoting their riverine environments as untapped tourism and economic resources.



Description of the Chemung River Trails Initiative

The Chemung River Comprehensive Master Plan is primarily a feasibility and resource document for the City, Towns and County with a focus on developing a primary network of trails, programs, and specific enhancements. The regional trail system will help to ensure good connectivity between municipalities, develop joint projects where needed, and develop consistent trail design and management standards. This document fine tunes a common vision and encourages a regional effort toward river development.

Each community has the option to develop and approve its own trail improvements. To the extent feasible, this plan has incorporated existing local plans and priorities as part of its recommendations. Local projects not specifically included in this plan can be adopted and funded by each community as well. Many projects and programs included in this plan would need to be sponsored by a local agency, requiring local approvals and additional public input. All projects in this plan will require

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additional feasibility, design, environmental, and/or public input to be funded and constructed. All projects and plans would need to conform with local general plans as well.

Many people think of trails as local facilities serving local destination. A regional trail system is composed of existing local trails, that when linked, form a regional network, and serve a specific function by connecting communities, serving major destinations, and providing longer distance riding, walking or “floating” opportunities. A regional trail system will serve a wide variety of user groups including students, commuters, joggers and bicyclists, as well as provide connections for major existing gaps in community trail systems that inhibit people from walking or riding. A regional trail, while being composed of local trails developed by local agencies, provides a benefit that goes beyond any one community – enhancing the overall quality of life in the region and attracting visitors and tourists.

The Chemung River Comprehensive Master Plan study recommends a feasible network of riverbank trails and public access areas within the City of Elmira and the five (5) river towns. The master plan identifies safe trail, road and water connections between existing and future recreational destinations and points of interest, including a possible whitewater bypass at the Hibbard Dam. These connections are expected to create more desirable communities for the residents by furthering the protection of the natural resources, creation of recreational opportunities, and promotion of a healthy lifestyle. The design team in cooperation with Waterfront Advisory Committee representatives built upon earlier visions and devised practical strategies for a sustainable, phased implementation of the Plan. The future of the proposed program relies on the viability of the Waterfront Advisory Committee and its appointed Waterfront Coordinator.

This Master Plan effort evaluates environmental and physical constraints, provides information on trail route options and design, probable construction costs, implementation, operations, and management of the proposed facilities. Local river culture and historic interpretation of the region's past has been integrated into these design concepts as encouraged by local interest and input. The Chemung River Basin is also a designated Gateway of the Chesapeake Bay Gateways Network whose mission is to help the American public access, enjoy, understand and appreciate the natural, cultural, historic and recreational resources and values of the Chesapeake and its rivers and engage in their stewardship. In addition, the Plan supports and complements the river communities' Comprehensive Plans and adds design guidelines that support the principles of a walkable community. Potential funding sources were identified early on to assist with implementation of priority projects.

Consultant team representatives participated in a day-long tour of resources and two or three public informational meetings organized and facilitated by the Waterfront Advisory Committee. Numerous meetings with the Waterfront Advisory Committee were attended along with stakeholder and key Agency contacts.

Types of Recommendation

There are four distinct types of recommendations in this report:

1. General recommendations
2. Location-specific project recommendations

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3. Implementation recommendations
4. Design, operation, and management standards and guidelines

Specific recommendations range from new trails to the development, expansion, or improvement of existing trails. General recommendations include:

- Planning and Implementation
- Trail Operations and Maintenance
- ADA Accessibility and Connectivity
- Trail Amenities

Implementation recommendations include prioritization of projects, funding strategies, and partnership suggestions.

A final set of recommendations in the Chemung River Trails initiative is the provision of trail design, operation, and management standards and guidelines. These serve as an important resource for local agencies as they implement the regional river trail system, ensuring consistent and best management practices.

B. Planning & Public Process

The Cornell Cooperative Extension of Chemung County (CCE) conducted a visioning process in 2004. The effort resulted in building community support and a well documented Chemung River Futures Report. As a result of this effort, the City of Elmira and the Town of Big Flats collaborated with Chemung Cooperative Extension and the remaining River bordering towns to apply for grants from the NYS Quality Communities and Local Waterfront Revitalization Program to prepare a Comprehensive Chemung River Master Plan, a Greenway Compact, and to commence the design of recommended projects. Three grants were received totaling \$103,480. The preparation of the Comprehensive Chemung River Master Plan was overseen by the Chemung County Waterfront Advisory Committee, a diverse stakeholder group comprised of representatives of each of the municipalities and a myriad of river user groups. DEC, County Transportation and other important representation were added to the Committee to assure an objective and inclusive approach (see earlier Acknowledgements for Committee members). It is important that the stakeholders have an active role in the development of project alternatives.

Five (5) Waterfront Advisory Committee meetings were attended by the Consultants on a monthly schedule. The Waterfront Advisory Committee met on a bi-weekly schedule during the development of the project. At these meetings, findings were discussed, alternatives debated, and consensus sought. A day-long river tour was conducted in the Spring with background information assembled by the Cornell Cooperative Extension staff. Numerous sites were visited with representatives



Trolley Tour.



Public meeting gathering & feedback.

Chemung River Trail – Background Summary & Goals

of each municipality present within their jurisdiction. Consultants were able to ask questions and become oriented to the geography, issues, and representatives throughout the project.

Two (2) Consultant Public Information Meetings and one (1) Cornell Extension staffed Public Information Meeting were held during the preparation of alternatives to review design concepts for the entire corridor. The first meeting was conducted to present the Inventory findings, present initial design concepts, and solicit public response. Approximately 160 people attended including the Mayor of the City of Elmira, and Town Supervisors. Additional public input was obtained from the facilitators. The design team presented the plans, answered questions, and prepared numerous visuals to aid in understanding the alternatives. Information was tabulated and disseminated to the Waterfront Advisory Committee for comment. Cornell Extension staff used visuals to provide booths at two day-long community events and other public venues. The second meeting was hosted at the Elmira Southside High School Auditorium. This was attended by approximately 75 people, including the Mayor and County representatives, with a positive exchange of support and ideas.



Tabulating public meeting comments.

The Waterfront Advisory Committee was created to oversee execution of three Department of State river grants. The Waterfront Advisory Committee has a chair, co-chair and a Cornell Extension staff project manager. The Committee makes decisions by consensus. Community engagement, input and evaluation are an integral part of all the river planning grants. The Waterfront Advisory Committee representation from municipalities includes at least one active representative who brings in other municipal expertise based on Committee agendas/needs. Representatives are responsible for representing their municipal government regarding decisions/and soliciting feedback.

Organization representatives were requested to join the Waterfront Advisory Committee to be sure that river development was feasible in their jurisdictions and well accepted by important partners. These organizations include the Chemung Basin River Trail Partnership, the County Legislature, the Elmira-Chemung Transportation Council and NYSDEC.

Residents, paddlers, hikers and interest group residents were also solicited to bring numerous perspectives and issues to the table including sports groups, cultural groups, equestrian clubs, etc.

The 2004 vision study and report was a foundation for assessing community interest and documenting community input regarding river development. Based on the study and strong interest from the City of Elmira, Cornell Extension dedicated staff time to pursue funding for the creation of a Waterfront Advisory Committee and development of a River Master Plan. In 2005, Cornell Extension also used the interest generated by the vision to organize and support a community-led River Clean Up volunteer group, a community-led anti-dumping River group, an annual River Festival and River Paddle, a monthly electronic “River Muse” newsletter and to redevelop and maintain the Chemung Basin River Trail website.(www.chemungrivertrail.com)

C. Goals and Objectives

Goals provide the long-term vision and serve as the foundation of the plan. The Chemung County Waterfront Advisory Committee with direction from their consultant team established several goals based on the overall project purpose. These goals were fine-tuned in response to the needs assessment from the 2004 ‘River Futures Project’ and input from the public.

Goal 1: *To review options to increase public access to the Region’s river resources, and encourage connections between the waterfront, cultural and recreational amenities.*

Objectives:

- The plan must connect the major parks and points of interest that exist along the Chemung River corridor.
- Establish numerous access points to the waterfront and recreational/open space opportunities to the community, including access to the waters edge and improved access for paddlers.
- Explore a linear riverfront trail system through the City of Elmira that provides visual and physical connections to the river from north and southside neighborhoods, existing parks and civic spaces, while maintaining the flood control barriers.
- Develop a trail system along the waterfront that provides universal and safe access for walkers, bicyclists, joggers, and fishermen. And where possible access for equestrian use.
- Provide connections to proposed trail segments from established trails or designated bikeways.

Goal 2: *To identify and outline key Environmental, Historical/Cultural, and Public Safety issues that will impact the development potential of the waterfront and consider educational and tourism opportunities of these components in early planning phases.*

Objectives:

- The trail should take advantage of the heritage of the region and the rich history that the rivers have had over the years in molding transportation routes and existing land uses.
- Explore sustainable solutions within the river floodway and proposed developments.
- Avoid impacts to ecological systems, which may upset natural balances, or areas that contribute to the character of the waterfront. (These sensitive riparian areas, controlled locally by manmade features, offer educational opportunities into understanding the river ecology, habitat, and watershed systems).
- Promote Eco-tourism initiatives to support rural economic development.
- Enhance natural areas and scenic vistas, for public use and enjoyment.
- Ensure that flood risks and public safety concerns are considered in the proposed trail development options.
- Provide physical connections to historic resources, districts, or heritage areas.

Goal 3: *To recommend continuous waterfront trail development options where possible and connections to regional greenway/blueway network(s).*

Objectives:

- The trail system must utilize public lands wherever possible so as not to interfere with private residents or impact their property.

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- Proposed facilities should be accessible with nearby parking and provide an atmosphere where the people using the system feel safe. This reflects directly on the ability of the municipalities and agencies to service, police, and secure the sites.
- Proposals should promote waterfront activities, tourism, and be a catalyst for economic development especially within the Central Business Districts of Big Flats and Elmira.
- Concepts should consider current and future public works initiatives including those identified in the Comprehensive Plans, or provided by municipal/council representatives.

Goal 4: *To recommend a logical phasing of implementation and management structure to sustain development goals.*

Objectives:

- The plan must be realistic in terms of cost and implementation. Funding of major projects may be limited to grants with financial support through in-kind services.
- Consider ‘piggybacking’ onto other major transportation and infrastructure projects to realize completion of trail segments.
- The proposed linear waterfront development should be identified in logical sections that could be implemented in phases and dispersed appropriately among the river communities.
- Explore funding sources and provide recommendations early on in the planning for the City/County/Towns to consider and pursue within first three years.
- Recommend a management structure that is supported by public and private sources and retains regional representation.

D. Summary of Relevant Plans

Planning for bicycling, walking, and water trails has a long history in Chemung County, including the following plans that have been prepared over the past 20 years:

1. File Chronology: Chemung County Matching Grant Award (NYS Environmental Quality Bond Act) Gateway Living History Park Project (1987-1989)

Compilation of various correspondence, cost estimates, newspaper articles and editorials, master plan components, and charts, Chemung County Resolution, community support statements documenting the “Gateway Living History Park” application submitted by Chemung County to the NYS Office of Parks, Recreation, and Historic Preservation for funding.

2. Development Plan: Pirozzolo Park, Town of Elmira (Kotz and Associates, June 1989)

The plan was “intended to expand the existing recreational facilities in the park, ...to make better use of space in the park, to better use the natural state of the area along the Chemung River, and to enhance the visual appearance of the park.”

3. Rail Trails in Chemung County (Draft) – Master Plans for the Development of Multi-Use Trails in Big Flats and Horseheads/Elmira (Trowbridge & Wolf Landscape Architects, November 1995)

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The Intermodal Surface Transportation Efficiency Act of 1991 required The Executive Transportation Committee for Chemung County (ETCCC) to prepare a Long Range Transportation Plan. “The ETCCC’s Bicycle and Pedestrian Advisory Committee identified two priority regional bicycle and pedestrian routes - Horseheads to Elmira and Horseheads to Corning....In June, 1995 the ETCCC hired Trowbridge & Wolf Landscape Architects to prepare master plans and cost estimates for the conversion of two abandoned rail corridors into multi-use trails.”

4. Chemung River Report to the Community (Cornell Cooperative Extension of Chemung County, August 2004)

Cornell Cooperative Extension of Chemung County proposed “River Futures Project”, gathering ideas from county and city residents on the future role of the river in supporting efforts to reinvigorate the area. The Report documents ideas gathered from over 300 residents of Chemung County. This report was the focus and basis for the application of the City of Elmira, with support from the remaining five (5) river communities, to NYS QC in order to obtain funding for the creation of a Comprehensive Chemung River Master Plan which would formalize future development opportunities along the River to ensure that cohesive development occurred. Specific River Projects identified included:

- Walking/Hiking/Biking Trail – It proposed that at least one leg of the trail would be constructed and in use by Summer 2007. Other recommendations were to be completed by Summer 2006.
- Business Development – Develop a comprehensive strategic plan for creation of a riverfront business district within three years.
- Docks, Piers, and River Access - Develop a well-designed portage trail to encourage more boaters to use the river. Increase signage and improve lighting at access points. Greater marketing to publicize launch sites.
- Beautification – Improve the visual aesthetics along the river through a series of beautification projects. Coordinate an “Adopt-the –River” approach to river clean up and have in place by Fall 2005.
- Festivals – Initiate a process to gather and prioritize a festival or event that is directly river-related through Winter 2005. Secure funding, sponsors, partner groups and organize the top priority with event to occur by Spring 2006.

5. Final Report: Chase-Hibbard Dam, Fish Ladder and Portage Study (Bergmann Associates, September 2006)

“This report summarizes a feasibility study for the construction of a portage trail and fish ladder at the Elmira Water Board’s Chase-Hibbard Dam located in the City of Elmira, NY.” Charts and photos document the existing and proposed alternatives (2) for paddler portage around the south end of the Dam and Denil Fish ladder option and costs.

6. Chemung River Greenbelt – NYS 2006 Open Space Conservation Plan

“This project expands and enhances significant recreational resources in a unique, scenic landscape while protecting important wildlife habitat. A Chemung River watershed

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greenway was first proposed in the Southern Tier Central Regional Planning Board's 1976 Comprehensive Plan. The project would include the Chemung River Basin Trail, an existing series of boat launches that is part of the Chesapeake Bay Gateways program, and the river's flood plains and highlands. In addition to recreational resources provided by both the river corridors and land-based trail, preservation of open space in the area would link valuable wildlife habitats for timber rattlesnakes, black bear, and bald eagles."

7. Lackawanna Trail (Elmira-Chemung Transportation Council, 2005)

"The City of Elmira received a TEA-21 Enhancement Grant to construct a trail along the abandoned Lackawanna Railroad right-of-way. The section of the trail that connects Lake Street to Eldridge Park has been completed. The trail from Eldridge to a parking area on Water Street will be completed in 2006."

(Elmira-Chemung Transportation Council website)

"The Lackawanna Trail project report is under review. The City hopes to complete the project this fall."

(ECTC Planning/Policy Minutes, May 24, 2007).

(Note: completion currently expected summer 2008).

II. EXISTING CONDITIONS INVENTORY and ENVIRONMENTAL/CULTURAL ASSESSMENT

A. Introduction

Any planning process must start with an evaluation of existing conditions in the region. The inventory and environmental/cultural component of the Master Plan has included research, fieldwork, and mapping of existing land uses and the physical characteristics of the Chemung River Basin. All these existing conditions join together to create the environmental framework upon which planning can occur. The inventory maps provide much of the basis for the physical planning concepts and policy recommendations to follow. The purpose of this chapter is to preliminarily identify existing environmental features, potential environmental constraints and permitting requirements associated with the network of riverbank trails and public access areas within the City of Elmira and the five (5) involved river towns.

Natural conditions, existing uses, transportation infrastructure, and general property ownership in the Chemung River Basin were reviewed and mapped consistent with the Master Plan proposal. The following is a list of maps prepared for this study. Colored pdf versions of these maps and others found in this report are available and may be viewed at the City of Elmira web site www.cityofelmira.net/about/riverfront.html or the City of Elmira Department of Community Development offices on Church Street in Elmira.

Existing Conditions Maps:	MAP NO:
Current Land Use	2-A
Property Ownership	2-B
Contours	2-C
Transportation	2-D
Flooding Limits	2-E
Recreation	2-F
Cultural, Historic, Scenic & Tourism Resources	2-G

Maps were prepared by Bill Ostrander using current county GIS Database with direction provided by HAAS Landscape Architects on layers of importance.

B. Corridor Resources & Inventory Maps

1. LOCATION

Chemung County, in south-central New York State, is bordered by Tioga County, NY, on the east, Steuben County on the west, Schuyler and Tompkins Counties on the north, and Bradford and Tioga Counties, PA, on the south. The Chemung River meanders across the lower end of the County for approximately 38 miles.

2. POPULATION

Chemung County comprises about 412 square miles and has a population of about 91,000 (2000 Census) 88,641 (2006 estimate). The County is rural in character, with an average population density of 223 people per square mile.

The majority of the population is concentrated in the Chemung River corridor, especially in the City of Elmira and the Town of Big Flats.

Source: U.S. Census Bureau: State and County QuickFacts.

3. EXISTING LAND/BUILDING USE

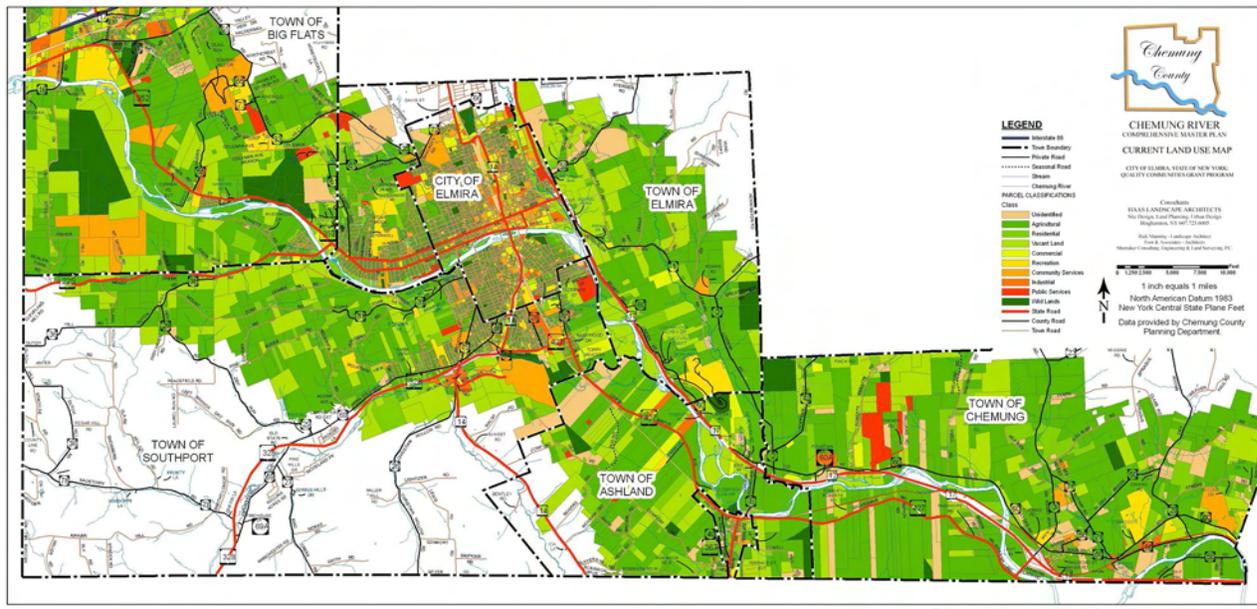


Figure 2-A – Current Land Use Map

According to the Census of 1992, approximately 37% of Chemung County land was being used for residential purposes. Agricultural uses account for 26% (2003) of the County, and vacant land is third at 22%. Wild/Forested land is fourth at 11%. Commercial, Industrial, Community/Public Services, Utilities, and Recreation lands each comprise between 0.5% to 0.8% of the County.

Almost half of the County is considered potential commercial forest land. 10,000 acres are New York State Forest. Wetlands cover 2% of the land in the county, mostly in the form of small lakes, ponds and areas adjacent to the Chemung River and smaller creeks.

The project area is located in the Chemung River Valley and is characterized by predominantly rural/agricultural areas, with the exception of the city of Elmira, which is urbanized with commercial, industrial, and residential land use. The Chemung River parallels

NYS Route 17 (future Interstate 86) until it reaches Elmira, NY and then it follows NYS Route 352.

The Land Use Map features roadways, streams, municipal boundaries and a variety of land use classifications. State route are characterized in orange and County Roads in black. A considerable acreage along the river is either in Vacant, Residential, or Agricultural use. Many of the County’s major transportation routes have or still follow the river valley. This should provide some opportunities for trail corridors contiguous to or within existing public rights-of-way. Abandoned rail, canal and trolley corridors offer special consideration as they may remain intact or in single ownership.

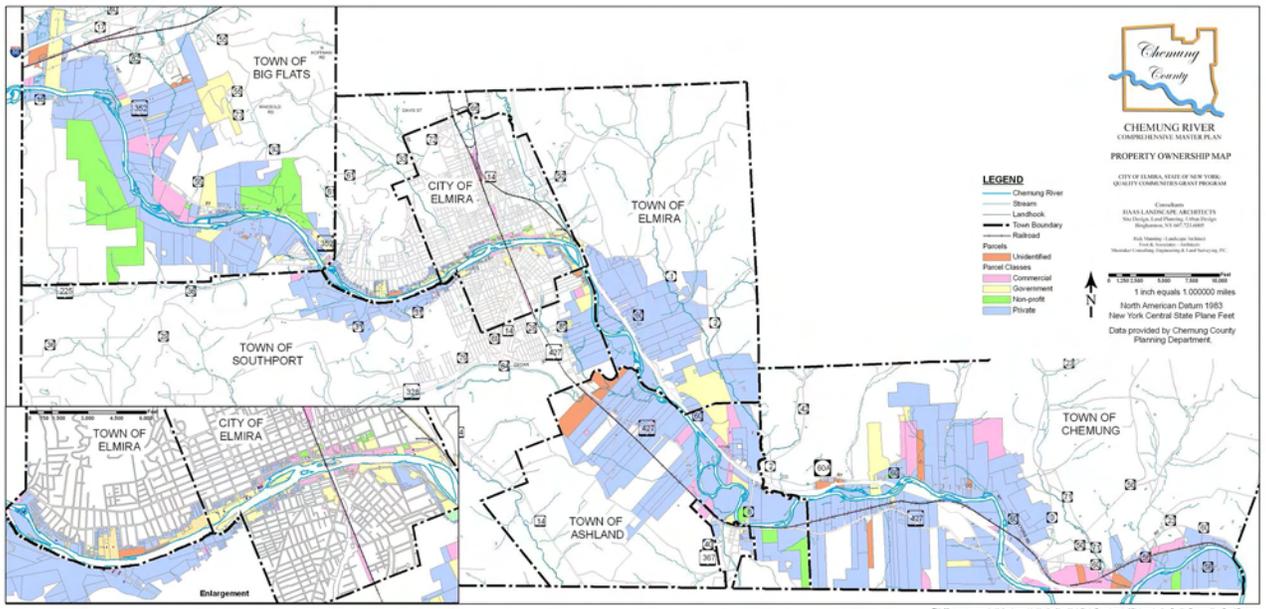


Figure 2-B – Property Ownership Map

Parcels at least two-deep were mapped by ownership categories including Government (Public lands such as levees and parks), Commercial, Non-Profit, and Private. The majority of the land along the Chemung River in the project area is privately owned. Government-owned Newtown Battlefield is located north of NYS Route 17 (future Interstate 86) in the town of Elmira. Steege Hill Nature Preserve, south of the Chemung River, and Tanglewood Nature Center & Museum, north of the Chemung River, both in Big Flats, are both properties owned by non-profit organizations. An enlargement of downtown Elmira has been inset in the lower quadrant of the map to assist with the smaller nature of these parcels. This map has been very helpful in qualifying potential trail corridors for consideration. A bias toward consideration of public lands has been followed. This results in a more realistic plan and reasonable recommendations with little impact on private lands. Local governments should take advantage of opportunities to obtain ownership/conservation easements of waterfront lands as opportunities present themselves.

4. TOPOGRAPHY

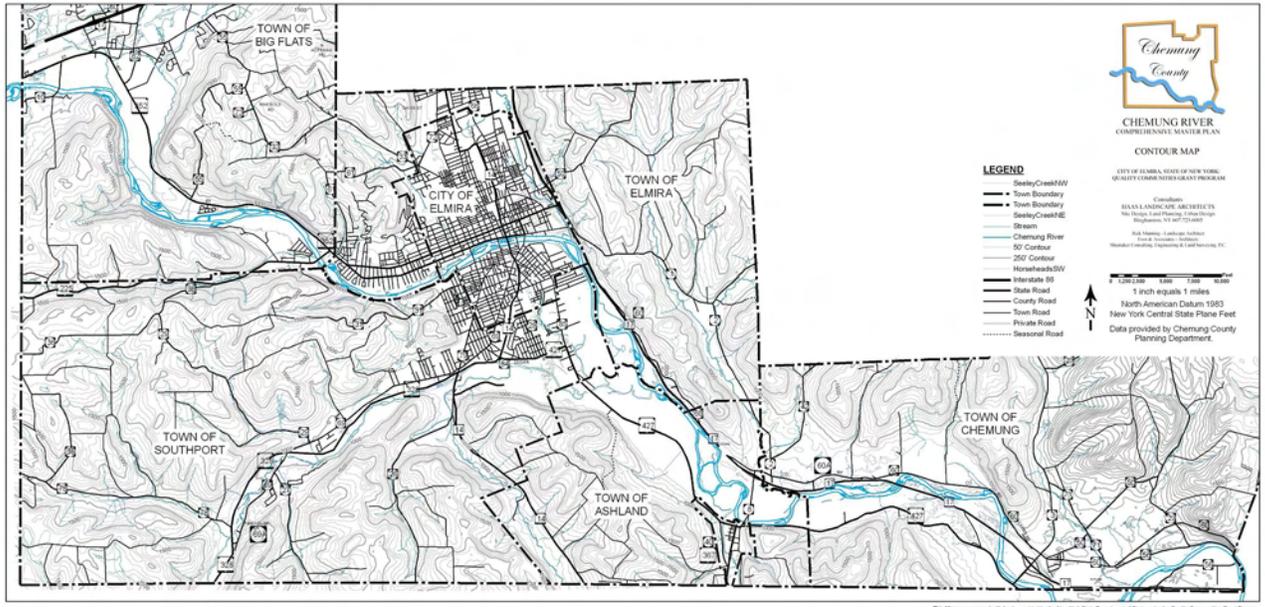


Figure 2-C – Contour Map

Chemung County lies within a geological region called the Allegheny Plateau. It is a mature, eroded plateau, dissected by erosion to a depth of 600 to 900 feet. The extreme elevation is 1,900 feet above sea level, and the lowest point is 775 feet where the Chemung River leaves the county. The area is characterized by flat-topped hills and ridges that have long slopes. They are rounded and less sloping in the upper part and smooth and more sloping at lower elevations. The larger valleys are broad and flat. The even elevation of the hilltops and the almost level to gently sloping relief reflect the nearly horizontal character of the underlying shale and sandstone bedrock. The uplands of the county are covered by a continuous mantle of glacial till, an unsorted mixture of clay, silt, sand, gravel, and boulders deposited by the overriding glacier. It ranges in thickness from practically nothing on some of the shallow hilltops to very great on some of the lower slopes. Most of the county is drained by the Chemung River. It is part of the Susquehanna River system and flows into this river south of Waverly.

5. TRANSPORTATION

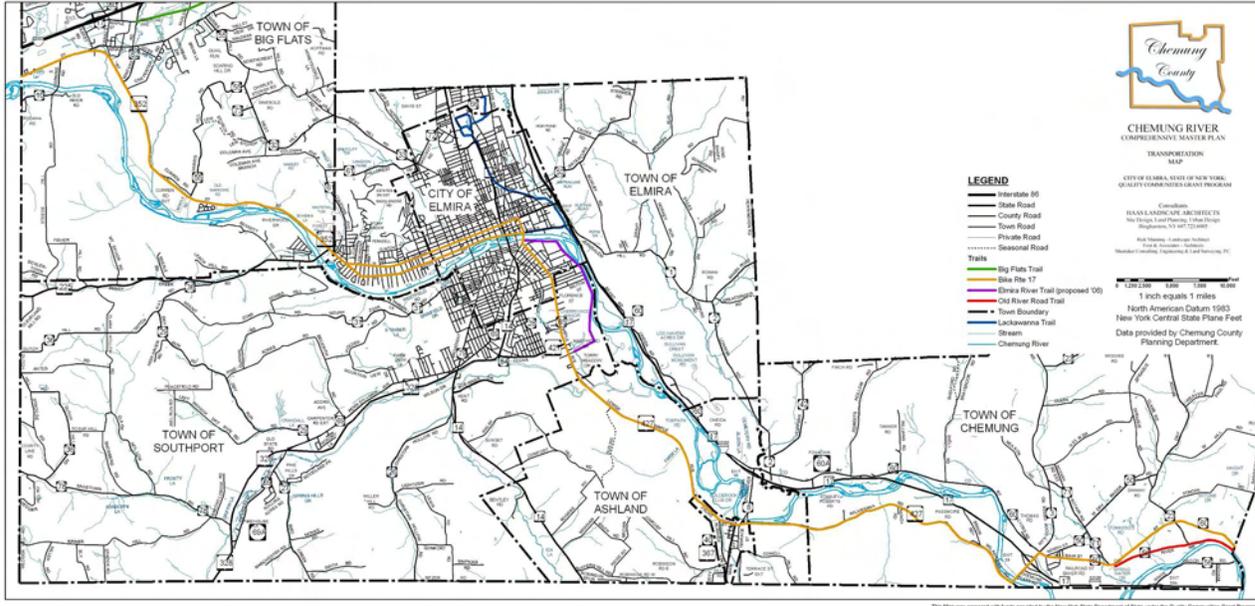


Figure 2-D – Transportation Map

Highways and their interchanges represent the primary access corridors and points with the county. Within Chemung County lie:

- a. **New York State Route 17 (Future Interstate 86)** - Better known as the Southern Tier Expressway, a limited access, four-lane divided highway that runs in an east-west direction across the southern part of the county before turning north to Elmira and Horseheads. At Horseheads, it continues west to the Steuben County line. Route 17 (I-86) connects Chemung County to the urban areas of Corning on the west and to Binghamton on the east. It parallels the Chemung River until it reaches the city of Elmira.
- b. **New York State Route 427** - This two-lane highway runs along the Chemung River in an east-west direction through the southern part of the County, parallel to Route 17 (I-86) and the Chemung River until it reaches the outskirts of the city of Elmira. It runs through the towns of Chemung, Wellsburg, and Ashland. It is also the designated bicycle route (17) for the Chemung County MPO.
- c. **New York State Route 14** - This two-lane highway runs in a north-south direction from the Pennsylvania border to the city of Elmira, continuing north to Horseheads and Millport. Route 14 crosses the Chemung River at Main Street.
- d. **New York State Route 352** - This two-lane highway runs in an east-west direction from the Steuben County line to the city of Elmira where it divides and continues as

Water Street and Church Street, eventually intersecting with NYS Route 17 (I-86) at Exit 56. It is also the designated bicycle route (17) for the Chemung County MPO.

- e. **New York State Route 225** - This two-lane highway runs in an east-west direction from the Steuben County line to intersect with NYS Route 352 at the eastern edge of the Town of Big Flats. It crosses the Chemung River as Hendy Creek Road at Fitches Bridge.
- f. **County Route 60** - This two-lane highway begins at the Tioga County line and runs in an east-west direction, paralleling Route 17 (I-86) as it turns north to the city of Elmira. Known as Old Lowman Road/Oneida Road, it also parallels the Chemung River ending near the Big Island.
- g. **County Route 31** - This two-lane highway parallels the Chemung River and runs in an east-west direction as Mount Zoar Road. It intersects with N. Timber Lane which ends at Rorick's Glen.
- h. **County Route 61** – As Coleman Avenue, this two-lane street runs in a north-south direction ending at River Drive on the Chemung River near the western edge of the Town of Elmira.
- i. **County Route 55** - Also two-lane, Route 55 extends north from NYS Route 352 in the Town of Big Flats to Harris Hill Park
- j. **County Route 10** - Two-lane Route 10 runs east-west from the Steuben County line and turns north-south to intersect NYS Route 352. It crosses the Chemung River as S. Corning Road.

Located about 10 miles northwest of Elmira in Big Flats, the Elmira-Corning Regional Airport, with service being provided by Northwest Airlink and US Airways, sees more than 6,000 flights arrive and depart every year. Thousands of tons of shipping are transported by truck and rail to and through Chemung County via Route 17/Interstate 86.

Capitol Trailways, New York Trailways and Short Line bus lines serve the region from a main station in Elmira. Local bus transportation is provided by the Chemung County Transit System. Regional train service is provided by Conrail.

A couple existing or proposed designated trail routes are also mapped. These include the Big Flats rail-trail, the Lackawanna Trail and Elmira River Trail within the City of Elmira, the Old River Road trail in the easternmost edge of the County, and Bike Route 17 north and south of the river.

The Chemung County Chamber of Commerce provides a one-hour narrated tour of historical sites aboard “The Elmiran” Trolley. Tours are given from July 1st through August 31st. The narrated tour includes historical sites in downtown Elmira, and the last tour of the day goes to Harris Hill.

Source: Chemung County Chamber of Commerce

6. RIGHTS-OF-WAY

The NYSDOT right-of-way corridor belonging to NYS Route 17 (future I-86) extends throughout Chemung County. In some locations, it takes in substantially more area than is needed for the highway, and may offer the potential for future recreational trail development. One such area is on the eastern edge of the county and takes in all the land between the highway and the river. The bulk of this particular surplus area is actually farther east in Broome County, and is discussed for its recreational potential in the on-going Binghamton Metropolitan Transportation Study trails project. Another piece of NYSDOT right of way with potential for recreational development is the narrow strip along the Susquehanna's north bank at Beardslee Lane in the Town of Tioga. This parcel is actually part of the original Route 17 (I-86) right of way, even though it is on the opposite side of the river from the highway; it was acquired as part of the project to divert the channel of the river northward to create more land area for the highway as it passes the Narrows.

Conrail also owns rights-of-way through the County. The main line runs between the river and NYS Route 17C on the north side of the river. These tracks are currently an active freight route. A spur line branches off in Owego, crossing Owego Creek in two places before heading to the north. These tracks are used for occasional excursion trains by the Tioga Scenic Railway (Tioga County). The rail line east of Elmira remains active with one siding remaining. A parallel roadway or of-road trail is evident for most of its length through Chemung or Ashland. An abandoned rail line parallels Route 17 (I-86) along the north bank of the Susquehanna. This easement was deeded to the NYSDOT within the past 50 years and is currently used by fishermen and recreational bicyclists. The steel train trestle visible from Exit 56 was evident in earlier City maps as it passed over the Junction Canal. It is believed to be owned by the City of Elmira.

A discussion of environmental resources including wetlands, floodplains, surface water bodies, general ecology, and hazardous waste sites is included in the following section.

C. Environmental Assessment

1. WETLANDS

Several resources including USGS quadrangle maps, New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Maps, National Wetland Inventory Maps, the County Soil Survey and the County and State Hydric Soils Lists are generally consulted to identify potential wetland locations.

The NYSDEC Freshwater Wetlands Maps do not identify any State-regulated freshwater wetlands within the limits of the Chemung River trail corridor. Therefore, a NYSDEC Article 24 Freshwater Wetlands Permit may not be required from the NYSDEC when developing within segments of this basin.

The United States Fish and Wildlife Services (USFWS) National Wetland Inventory (NWI) Maps identify several wetlands of varying types within the floodplain of the Chemung River. Mapped wetland types include Palustrine Forested Persistent Seasonally Flooded/Saturated (PFO1E), Palustrine Forested Persistent Temporarily Flooded (PFO1A), Palustrine Scrub-Shrub Persistent Temporarily Flooded (PSS1A), Palustrine Emergent Persistent Seasonally Flooded/Saturated (PEM1E), Palustrine Emergent Persistent Seasonally Flooded (PEM1C) and Palustrine Forested Persistent Seasonally Flooded (PFO1C). In general, emergent and shrub type wetlands are depicted between the Chemung River and State Route 352 in the Town of Big Flats. Two wetlands are mapped within the City of Elmira. One forested wetland is depicted on the north side of the river, in the vicinity of Morningside and Cleveland Streets, and an emergent wetland is depicted adjacent to the river in the vicinity of Cleveland and Demarest Parkway. Several areas including forested, emergent and shrub wetlands are mapped between NYS Route 17 (I-86) and the Chemung River in the Town of Elmira. Several wetlands are also located south of NYS Route 17 (I-86), in the Town of Ashland, where the river flows into Pennsylvania.

A site inspection should be performed prior the construction of any of the proposed trail routes to confirm the location of the mapped wetlands and identify any additional wetland areas within the proposed limit of work. Any wetlands identified within the limit of work should be identified and measures taken to avoid/minimize the impact to the extent possible. A United States Army Corps of Engineers Permit would be required for any unavoidable wetland impacts. Compensatory wetland mitigation would be required to offset project-related impacts greater than one-tenth of an acre.

2. FLOODPLAINS/FLOOD CONTROL STRUCTURES

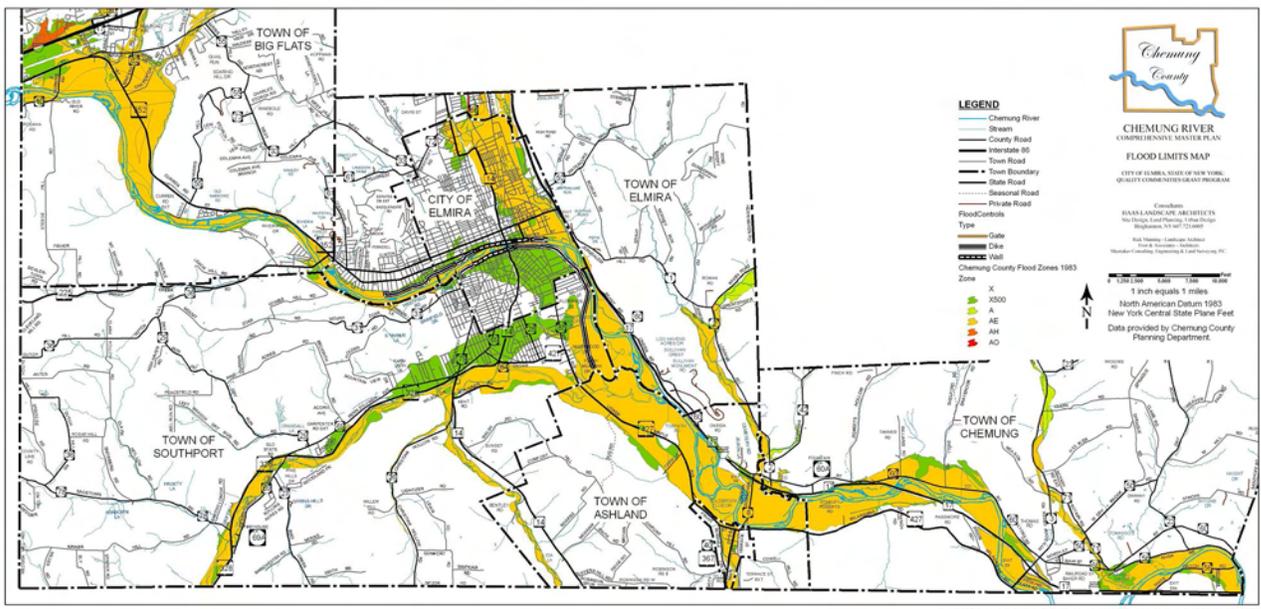


Figure 2-E – Flood Limits Map

The proposed trail routes are in close proximity to the Chemung River which encompasses an extensive flood plain. According to the Federal Emergency Management Agency (FEMA), a 100-year flood has a one-percent chance of occurring during any given year; whereas a 500-year flood has a 0.2 percent chance of occurring.

With the exception of the City of Elmira, the majority of the proposed trail would be constructed within the 100-year floodplain as depicted on the Flood Limits Map (Figure 2-E). Within the City of Elmira, a large portion of the proposed trail would be within the boundaries of the 500-year floodplain.

It is expected that the construction of the proposed trail routes would require a minimal amount of net-fill within the 100-year flood plain. The proposed boat launches and river access areas should be constructed such that there is no net increase in fill and therefore, no increase in the surface water elevations for the base flood. The Chemung River has a drainage area of 2,604 square miles; therefore, the proposed impact on flood elevations is expected to be minimal.

Flood control structures include a dike and flood wall system, which are present along the north and south banks of the Chemung River within the City of Elmira. On the north side of the river, the dike extends along the bank of the river from approximately Hendy Avenue in the Town of Elmira to Elm Street in the City of Elmira, where the flood wall begins. The flood wall ends in the vicinity of Madison Avenue, where the dike continues a short distance. On the south side of the river, the flood control structures extend east/southeast from the City of Elmira/Southport line to the Town of Ashland/City of Elmira line. Flood control structures were constructed by the USACE, but are maintained by the NYSDEC. A permit for the use of State Flood Control Lands would be required from the NYSDEC, for locations of the trail that require use of the flood wall or dike. Coordination should be established with the NYSDEC during the development of project plans for trail routes that involve the use of State-maintained flood control structures, to ensure that the proposed uses are acceptable and will not affect the integrity of the structures.

The Chase-Hibbard Dam obstructs the Chemung River, west of the South Main Street Bridge. Currently river users have to portage around the dam. There have been discussions regarding a White Water Bypass and Fish Ladder at this location. Any construction, reconstruction or repair of dams and other impounding structures requires a NYSDEC Article 12 Protection of Waters Permit. Coordination with the United States Fish and Wildlife Service (USFWS) would be required with regard to the proposed fish ladder design.

3. WATER QUALITY

The Chemung River originates just west of Corning at the confluence of the Tioga and Cohocton Rivers, and flows generally east/southeast through the project limits and is classified by the NYSDEC as a Class A water body. The State's classification system relates to the defined usage and the effluent limitations that apply to discharges to those waters. As defined in 6NYCRR Part 701, the best usage of Class A waters are as a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation and fishing. The waters are also suitable for fish propagation and survival. As a

result of the classification, any work in the bed or banks of the Chemung River will require a NYSDEC Article 15 Protection of Waters Permit. Management practices will be necessary during the construction of any projects involving work within the bed or banks of the river, to meet the conditions of the permit.

Soil disturbances of greater than one acre require coverage under the State Pollution Discharge Elimination System (SPDES) Permit for construction activities. A Notice of Intent Form and development of a Stormwater Pollution Prevention Plan (SWPPP) that includes necessary water quality and water quantity control measures are required to obtain the permit. Projects that utilize the management practices identified in the NYSDEC Stormwater Management Design Manual, and meet the treatment and/or storage requirements as identified in the general permit, require a five (5) day review period. Projects that involve deviations from NYSDEC accepted practices require a 60-day review period.

The Chemung River is considered a “Water of the United States” under Section 404 of the Clean Water Act, and is therefore under the jurisdiction of the USACE regulatory branch. Required USACE permits vary depending on the specific activity. Smaller projects that involve minimal wetland and stream work are generally authorized under the USACE Section 404 Nationwide Permit (NWP) Program, provided the general conditions are met. Bank stabilization work would fall under NWP #13 and Boat Ramps are authorized under NWP #36. Small amounts of fill within wetlands that may occur as a result of trail work would also be authorized under a nationwide permit. Projects that exceed the NWP thresholds would require coverage under USACE Individual Permits. A NYSDEC Section 401 Water Quality Certification will also be required for any activity that involves coverage under a USACE Section 404 permit.

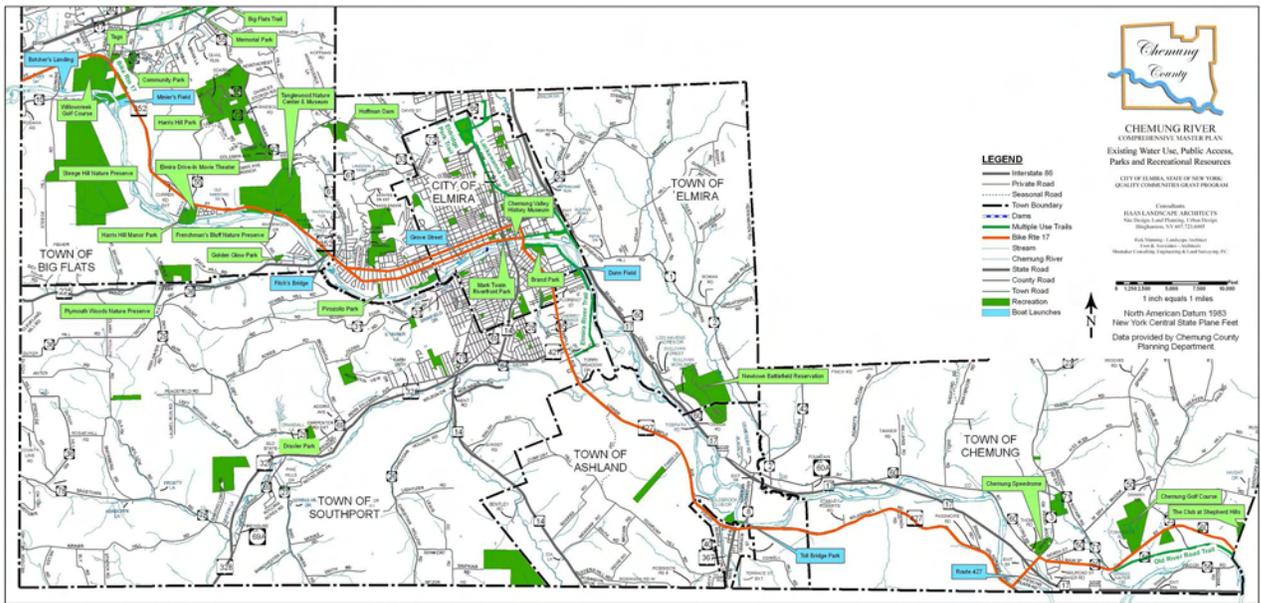


Figure 2-F – Existing Water Use, Public Access, Parks and Recreation Resources Map

This map provides a quick visual reference to public open space and recreational uses on or near the river corridor. Physical trail linkages should be considered wherever possible to connect these resources. Once again, existing multi-use trails and designated bikeways are shown.

At present there are seven public boat launch sites in the project area. They are:

1. Bottcher's Landing, Big Flats
2. Minier's Field, Big Flats
3. Fitches Bridge, Big Flats
4. Grove Street, Elmira
5. Dunn Field, Elmira
6. Toll Bridge Park, Wellsburg
7. Route 427, Town of Chemung

A number of parks, nature centers, golf courses, and other recreational and cultural opportunities are available within or very near the project area. They are:

1. Steege Hill Nature Preserve, Big Flats
2. Harris Hill Manor Park, Big Flats
3. Community Park, Big Flats
4. Frenchman's Bluff Nature Preserve, Big Flats
5. Tanglewood Nature Center & Museum, Big Flats
6. Willowcreek Golf Course, Big Flats
7. Pirozzola Park, Town of Elmira
8. Mark Twain Riverfront Park, Elmira
9. Katy Leary Park Elmira
10. Chemung Valley History Museum, Elmira
11. Brand Park, Elmira
12. Arnot Art Museum, Elmira
13. First Arena Sports & Entertainment Center, Elmira
14. Clemens Center for the Performing Arts, Elmira
15. Wisner Park, Elmira
16. Newtown Battlefield Reservation, Town of Elmira
17. Chemung Speedrome, Town of Chemung
18. Chemung Golf Course, Town of Chemung
19. The Club at Shepherd Hills, Town of Chemung

4. CULTURAL RESOURCES

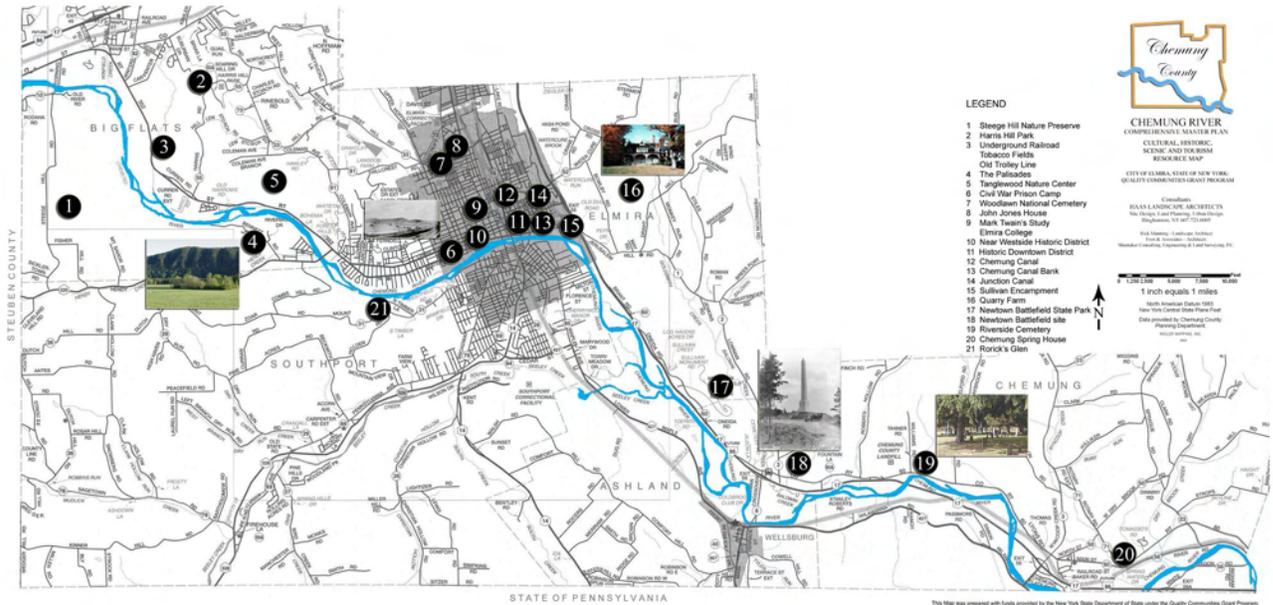


Figure 2-G – Cultural, Historic, Scenic and Tourism Resources Map

History

The Chemung River Valley is an area rich in historic significance. The corresponding Map (Fig. 2-G) locates 21 sites of cultural, visual or historic significance throughout the project corridor. A narrative of research follows providing some background on topics for further interpretation.

Early Geology: For about one million years, this area was covered by an ice sheet of up to one mile in thickness. Repeated glacial advances and retreats were responsible for the present local topography. The Chemung River seems small compared to the large valley through which it passes. This is because during the last glacial advance, the valley to the north was blocked, forcing the river to cut a new channel to the south. The steep, deeply eroded cliffs of the “Palisades” between Big Flats and West Elmira were created as the river carved its new path. The last ice sheet covering the Northeast melted about 10,000 years ago, and as the ice sheet receded, melt water washed large volumes of gravel into the newly formed valley to form the broad, flat valley floor of today.

Settlement: The Algonquin and the Iroquois, or “Haudenosaunee” (People of the Longhouse), lived in villages of Atsingnetsing, Kanawaholla, Canaweola, and Runonvea in the Chemung River Valley. They were hunter-gatherers, and later grew corn, beans, squash, and tobacco along the river. Hammer stones, axes, and flint arrowheads have been found at the Runonvea site. Located at Big Flats, it is one of the oldest Indian village sites in New York. The Forbidden Trail, so named because white settlers were prohibited from using it without the permission of the Seneca, was a fast route between Tioga Point and Olean for the

Native Americans. Later called the Andaste Trail, it was considered to be a strategic route, and so its use was denied to unfriendly tribes and all whites. The penalty was death. In Chemung County, the Forbidden Trail included “Snake Hole” (just west of the present-day hamlet of Chemung), “French Margaret’s” (Newtown), and “Kobustown” (West Elmira). It continued along the Chemung River to Big Flats. In 1779, Gen. John Sullivan followed The Forbidden Trail in his destruction of Iroquois villages. The Revolutionary War was instrumental in opening up the area to white settlement. Many Continental soldiers were awarded land in southern and central New York as payment for their service. White settlers came to the valley in 1779 and named the area after a Native American village on the Chemung River. “Chemung”, an Algonquin word, means “Place of the big horn”, a reference to mammoth tusks discovered nearby. Lumbering, dairy farming, agriculture, and river/canal transportation offered opportunities for settlers to prosper.

Tobacco: Tobacco was grown in Chemung County from 1850 to 1951. In 1900, fields of 50 acres were common. There were 10 processing plants in Elmira and 4 in Big Flats. Brand Park in Elmira was also a tobacco field. During the peak years of 1908 –1918, there were 2,000 acres of tobacco planted in the Big Flats area. After World War I, there were over 200 growers in the county, and over 1,000 people employed in the manufacture of cigars. As people began to smoke cigarettes instead of cigars, the demand for leaf tobacco declined steadily, and the production of tobacco in Chemung County ended in 1951.

Revolutionary War: One of the most important battles of the Revolutionary War was fought along present-day Route 17 (I-86) in the Chemung River Valley. General John Sullivan’s expedition against the Six Nations took place in August 1779. General George Washington ordered Sullivan to attack the Iroquois in retaliation for their support of the British. Washington’s plan included the destruction of Iroquois villages and crops. Coming from Easton, Pennsylvania, Sullivan destroyed the mostly abandoned Native American village of Old Chemung (near the intersection of present day Wyncoop Creek Road and County Route 60) and then attacked the village of New Chemung on August 12, 1779. By the next day, the army had burned buildings, ambushed the villagers, and destroyed cornfields. General James Clinton joined General Sullivan on August 22, and together they marched, seizing food for themselves, and destroying the remaining crops. With over 4,000 men, this represented almost one-third of the Continental forces. Major John Butler, a Tory leader, and Iroquois Chief Joseph Brant prepared to ambush Sullivan in defense of their territory near the village of Newtown. They constructed breastworks along a natural ridge that ran parallel to the Chemung River. On August 29, Sullivan intended to wait until Generals Poor and Clinton were in position behind the enemy before firing. But those troops were delayed by having to march through a mile of swamp (located northeast of Wellsburg on County Route 60). Sullivan’s cannons fired and exploded behind the Indians, who thought they were surrounded. The Continental Army did eventually surround the enemy and force a retreat. Sullivan’s army continued to march north to Geneseo and then back through the Chemung Valley in September with little or no resistance. Military camps were located north of the Native American village of Kanawaholla (Aug. 31, 1779) and at Catherine’s Town (Sept. 1, 1779). Sullivan’s army also camped south of present day Water Street near Route 17 (I-86) from Sept. 24 through Sept. 29. The Sullivan Campaign has been called the “most significant of 1779”.

Many historians believe that the Battle of Newtown was instrumental in eliminating the Native American alliance with the British and in their eventual defeat.

Newtown Battlefield State Park is located on Route 17 (I-86), west of Elmira. While only a small part of the park encompasses the actual battlefield, an obelisk commemorates the Sullivan Campaign and the Battle of Newtown. Sullivan's Monument was originally erected in 1879. The original, a victim of souvenir hunters for many years, fell apart during a storm on Aug. 30, 1911. The present monument, rising 59 feet, was completed Sept. 17, 1912 and cost \$10,500.



After the Revolutionary War, many soldiers returned to the area to settle. Compared to the stony pastures of their New England homes, the flat, fertile lands of the Chemung Valley were ideal. Riverside Cemetery, located east of Wellsburg on County Route 60, is the burial site of many Revolutionary War veterans and also the site of the Native American village of New Chemung.

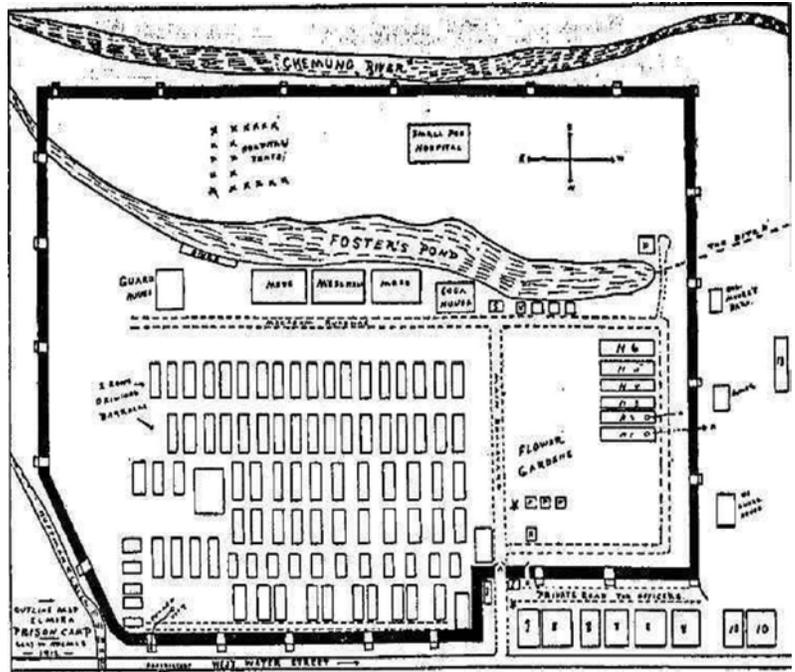
Canal Era: The unique character of Chemung County contributed to the construction of canals in the area. Chemung County, with the exception of Harris Hill, is completely level, and a canal cannot have over 1 foot of fall per mile. Construction of the Chemung Canal began in 1830, and it was finished in 1832. In 1833, the Chemung Canal opened. With a total of 53 locks, it was 23 miles long from Elmira to Watkins, linking Elmira and the Chemung River with Seneca Lake and the Erie Canal to the north, and the Chesapeake Bay to the south. It mainly carried freight such as Pennsylvania coal, lumber and agricultural products. During the Civil War, the Chemung Canal set a record for tonnage shipped. Boats, known as Chemung Scows, were built in County for use on the Chemung and other Canals. The Junction Canal was completed in 1858 and provided a means to unite the canal systems of New York and Pennsylvania by extending the waterway from the Chemung Canal at Elmira to the North Branch Canal at Athens, Pennsylvania. The Junction Canal was not controlled by the state, but rather by the Junction Canal Company which built it. It was also known locally as "Arnot's Canal". Canal boats traveled down the Susquehanna to Pennsylvania and on to Chesapeake Bay. After they were unloaded, the men would then walk or hitch a ride back to New York. Although shipping by canal was usually cheaper, the railroad soon surpassed the canal as a means of transporting goods to market. It was quicker and offered year-round service. Also the canals were in constant need of expensive repairs. The Junction Canal operated for 13 years, closing in 1871, and the Chemung Canal closed in November, 1878. Although the canals were not in operation for very long, they had a tremendous impact on the region. They fostered the development of many businesses and industries in the communities along the canals. The lumber and coal industries thrived thanks to the canals. Many mills located near the canals to send lumber and flour to markets all over New York. Groceries dotted the landscape along the canals to cater to the boatmen and canal laborers. The Chemung Canal made Corning one of the busiest inland ports in New York



State. Both Corning and Elmira grew in population thanks to the canals. The canals linked the communities to a thriving market economy, and paved the way for the coming of the railroad.

Civil War: In 1861, Elmira was designated as a rendezvous for the Union Army. Volunteer regiments raised in New York were processed in Elmira and then sent to the nation’s capital. Four Barracks were built in 1861 as camps of instruction. Barracks #1, a Cavalry camp, was located on Madison Street between Washington Street and Clinton Street, the present site of “Big Lots” store. Barracks #2 was located in Southport, and Barracks #4 (Camp Robinson) was on the south shore of the Chemung River.

Barracks #3, called Camp Rathbun, was built at Water Street and Hoffman Street, in what is now a residential area. The original main gate was located just east of the intersection of Foster Avenue and Water Street. In July 1864 it was converted into a Prisoner of War camp and renamed Camp Chemung. It is said to have been the worst prison camp in the North. Only open for 1 year and 4 days, from July 1864 to July 1865, it had the highest death rate of any prison camp in the north or the south. Its 12,000 inhabitants called it



“Hellmira”. Elmira prison was located on a 30-40 acre site along the banks of the Chemung River. A one-acre lagoon of water, called Foster's Pond, stood within the walls of the stockade. The pond was a backwash from the river and served as a latrine and garbage dump. Prison buildings were located on the high northern bank of the lagoon. The lower southern level, known to flood easily, later became a hospital area for hundreds of smallpox and diarrhea victims. Confederate dead were buried in Woodlawn Cemetery by John W. Jones who kept meticulous records. Of 2,963 prisoners buried, only seven are listed as unknown. Woodlawn Cemetery, located at 1825 Davis Street, Elmira, is the burial site of these Confederate Prisoners. It is the only cemetery north of the Mason-Dixon line where Confederate soldiers are buried, and it was declared a National Cemetery on Dec. 7, 1877. A Prison Camp memorial, which includes one of the original flagstuffs, is located at the northwest corner of 722 Winsor Avenue. Four homes, built of lumber from the Prison Camp, are located on the 600 block of W. Grey Street.

A Civil War Era Hospital was located at the intersection of Clinton Street and Davis Street. Parts of the original building still exist. They are painted pastel colors.

Underground Railroad: One of the most-used routes of the Underground Railroad came through Elmira and led to Canada. Several well-known residents of Elmira were involved in the Underground Railroad. John W. Jones, one of area's most successful conductors, was a former slave who arrived in Elmira via the Underground Railroad. His home, used as a hiding place, was originally located behind First Baptist Church on Church Street in Elmira. John W. Jones was caretaker of three cemeteries: The Baptist Burying Ground (the eastern half of today's Wisner Park), The Second Street Cemetery, and Woodlawn Cemetery. John W. Jones retired to his farm on College Avenue at the age of 73 after First Baptist Church decided it needed the property where John Jones' house stood. John W. Jones' home was moved to its present location on Davis Street across from Woodlawn Cemetery by a group of concerned citizens in the early twentieth century and is currently being restored as a museum.

Jervis Langdon, an Elmira merchant, provided funds to aid runaway slaves, but there is no evidence that he was a conductor. His home no longer exists, but it was located at the site of the present Langdon Plaza, corner of Main Street and Church Street in downtown Elmira.

Riggs Watrous assisted in hiding fugitives in the upper chambers of his house, the first residence on Lake Street north of Market Street.

Elmira was considered a safe location for fugitive slaves. Many liked the area so much that they decided to stay instead of continuing on toward Canada.

Famous Residents of the Chemung River Valley:

Mark Twain, the famous American humorist, married Olivia Langdon, an Elmira native, at her home on Feb. 2, 1870, and for many years lived in both Hartford, Connecticut and Elmira, NY. They spent their summers at Quarry Farm, near Elmira, for over 20 years. He wrote many of his most famous works, including The Adventures of Tom Sawyer, Adventures of Huckleberry Finn, The Prince and The Pauper, and A Connecticut Yankee in King Arthur's Court in the Study at Quarry Farm. In 1952 the Study was moved to the campus of Elmira College, and Quarry Farm serves as a home for visiting Mark Twain scholars. Twain, his wife and children are buried in the Langdon family plot in Woodlawn Cemetery.



Victor Shelford, the Father of Animal Ecology in the United States, was born in Chemung County on September 22, 1877. He began his career, teaching in Chemung County public schools. A renowned educator, he taught at the University of Chicago, the University of Illinois, and the Puget Sound Biological Station. He helped found the Ecological Society of America and the Nature Conservancy, and he served as the chairman of two National Research Council committees. A plaque at the north end of Shelford Road in the town of Chemung marks his birthplace.



Ernie Davis, the first black athlete to win the Heisman Trophy, moved to Elmira at the age of 12. He excelled in sports as a child and received a football scholarship to Syracuse University. While setting rushing and scoring records at Syracuse, he also excelled at basketball, being listed in *Sports Illustrated* as a noteworthy all-around athlete. During his senior season, he was named *Sports Illustrated*'s "Back of the Week", four times weekly All-East, a consensus All-American and winner of the 1961 Heisman Trophy. He was the number one pick in the 1962 NFL draft and signed with Cleveland Browns. Ernie Davis was diagnosed with leukemia on July 30, 1962 and died on May 18, 1963. The Cleveland Browns retired his number, 45. He was eulogized by both houses of Congress, and all flags in the city of Elmira were

flown at half-staff. He is buried in Woodlawn Cemetery. In 1964 Elmira Free Academy was renamed Ernie Davis Middle School in his honor, and his statue stands in front of the school on the corner of Lake Street and Fifth Street.

Eileen Collins was the first woman to pilot and command a space shuttle mission. A native of Elmira, she became an astronaut in July, 1991 and flew on four space shuttle missions. Her history-making command flight of July 22-27, 1999 deployed a telescope which enabled the study of exploding stars, quasars, and black holes. She also commanded NASA's "Return to Flight" mission on the space shuttle *Discovery* after the tragic destruction of the shuttle *Columbia*.

Fashion designer Tommy Hilfiger was born and raised in Elmira, NY. He attended Elmira Free Academy and opened his first store, called People's Place in downtown Elmira. A self-taught designer, his designs are a combination of the classics and the latest fashion trends. He has been honored by the fashion industry, receiving *GQ* magazine's Designer of the Year award, VH1's "From the Catwalk to the Sidewalk" award and the prestigious CFDA Menswear Designer of the Year Award. His charities include the Martin Luther King Jr. National Memorial Project Foundation, the Fresh Air Fund and the Race to Erase MS.

Hal Roach, Hollywood director and producer was born in Elmira, NY and spent his childhood on Columbia Street. His body of work includes the *Our Gang* series, *Laurel and Hardy* shorts, and feature films *Topper*, and *Of Mice and Men*. He worked with Will Rogers, *Laurel and Hardy*, *Jean Harlow*, *Fay Wray*, and *Boris Karloff*. His studios produced and/or filmed several television series including *Amos 'n Andy*, *The Lone Ranger*, *Groucho Marx*, and *Abbott and Costello*. He used his childhood hometown in his film work. One of the films in "The Boy Friends" series (the "Little Rascals" as teenagers) featured Elmira and *Corning* playing football. Late in his life, Hal Roach recalled memories of swimming in the Chemung River, playing football for Elmira Free Academy, delivering newspapers to *Samuel Clemens* (Mark Twain), and seeing magician *Harry Houdini* perform an escape stunt while suspended over the Chemung River. Elmira College awarded Roach an honorary doctorate in 1988. Other local honors include the Hal Roach Scholarship Fund for promising theater students, the Hal Roach Society, a plaque at the Clemens Center, and a Grove Park pavilion in his name. Hal Roach died on November 2, 1992 and is buried at Woodlawn Cemetery in Elmira. Both his parents are also buried in Elmira.

Historic Districts have been designated based on their historical/cultural contributions to the City. They fall within or near the river corridors and warrant mention.

1. Civic Historic District, Elmira, NY
2. Near Westside Historic District, Elmira, NY

The following Historic Structures located within the river corridors, have local significance and/or are located on the State or National registers of Historic Places

1. County Courthouse, Civic Historic District, Elmira, NY
2. Former Chemung Canal Bank (now the Chemung Valley History Museum), Civic Historic District, Elmira, NY
3. Elmira City Hall, Civic Historic District, Elmira, NY
4. Emmanuel Episcopal Church, Elmira, NY
5. Coca-Cola Works, Elmira, NY
6. Maxwell Fire Station, Elmira, NY
7. F. M. Howell Company, Elmira, NY
8. John Jones House, Elmira, NY
9. Park Church, Elmira, NY
10. Quarry Farm, Elmira, NY
11. St. Patrick's Convent, Elmira, NY
12. Woodlawn Cemetery, Elmira, NY
13. Second Street Cemetery, Elmira, NY
14. Chemung County Jail, Elmira, NY
15. Elmira Water Board Pump Station, Elmira, NY
16. Trinity Church, Elmira, NY
17. Christ Episcopal Church, Wellsburg, NY

REFERENCES

Chemung County Historical Society, Elmira, NY
"Pages in the History of Elmira" website
"Whitford's History of New York Canals" website
This From George by Eileen Patch

5. ECOLOGICAL COMMUNITIES/THREATENED AND ENDANGERED SPECIES

The majority of the project corridor is located along the banks of the Chemung River. Chemung County is located in the glaciated part of the Allegheny Plateau physiographic province. The area is generally characterized by flat topped hills and ridges that have long slopes that are smooth and more sloping at the lower elevation in the river valley.

Wildlife is an important natural resource for Chemung County. Populations of white-tailed deer, ruffed grouse, gray squirrel, wild turkey, ring-necked pheasant, and cottontail rabbit are common within the County. The specific type of wildlife found in a given area is closely related to land use; to the resulting kinds, amounts, and patterns of vegetation; and to the

supply and distribution of water. All of which are generally related to the type of soil found in the area. Based upon review of the proposed trail location, mapped soil types and land use, it has been determined that the large majority of the area located within and adjacent to the trail corridor is dominated by grain and seed crops, grasses and legumes, herbaceous upland plants, hardwood plants and coniferous trees. As such, the area is best suited for openland and woodland wildlife. Because of the proximity to the river itself and the wetland areas that exist along the river, wetland wildlife is also expected, but to a lesser extent. Openland wildlife includes pheasant (*Phasianus colchicus*), meadowlark (*Sturnella neglecta*), field sparrow (*Spizella pusilla*), Dove (*disambiguation*), cottontail rabbit (*Sylvilagus floridanus*), red fox (*Vulpes vulpes*), and woodchuck (*Marmota monax*). These birds and mammals typically make their homes in areas of crops, pasture, meadow and lawns and in areas overgrown with grasses, herbs and shrubs. Woodland wildlife include: the ruffed grouse (*Bonasa umbellus*), woodcock (*Scolopax minor*), vireo (*Vireo* sp.), scarlet tanager (*Piranga olivacea*), gray and red squirrel (*Sciurus* sp.), gray fox (*Urocyon cinereoargenteus*), white-tailed deer (*Odocoileus virginianus*) and raccoon (*P. lotor*). Wetland wildlife includes duck, geese, rail, heron, shore birds, red-wing blackbird (*Agelaius phoeniceus*), mink, muskrat (*Ondatra zibethicus*), and beavers (*Castor canadensis*) (Soil Survey of Chemung County). The following wildlife species or evidence of their existence was observed during the field screening effort : Great blue heron (*Ardea herodias*), gray squirrel (*Sciurus carolinensis*), house sparrow (*Passer domesticus*), Cliff swallow (*Petrochelidon pyrrhonota*) and white-tailed deer (*Odocoileus virginianus*).

A screening of several representative locations within the project corridor was performed to identify common plant species and wildlife in the vicinity of the proposed river trail routes. With the exception of the levee system and other maintained grass areas within Elmira, the majority of the project corridor is situated within the floodplain forest of the Chemung River. Common trees include Green ash (*Fraxinus pennsylvanica*), Silver maple (*Acer Saccharinum*), Black locust (*Robinia pseudoacacia*), Cottonwood (*Populus deltoides*) and Black willow (*Salix nigra*). Herbaceous vegetation included Golden rod, spp. (*Solidaga*, spp.), Garlic mustard (*Alliaria petiolata*), Canadian clearweed (*Pilea pumila*), (*Impatiens capensis*), Virginia creeper (*Parthenocissus quinquefolia*) and Reed canary grass (*Phalaris arundinacea*). Shrub species included Tatarian honeysuckle (*Lonicera tatarica*), Multiflora rose (*Rosa multiflora*) and Japanese knotweed (*Polygonum cuspidatum*). Measures should be taken during the construction of the proposed trail routes to minimize the potential spread of invasive species such as Japanese knotweed and multiflora rose. The levee system and maintained grass areas along the river within Elmira were dominated by Kentucky bluegrass (*Poa pratensis*), Crab grass (*Digitaria*), Dandelion (*Taraxacum officinale*), Wood sorrel (*Oxalis*), ground ivy (*Glechoma hederacea*), bird's-foot trefoil (*Lotus corniculatus*), Chickory (*Cichorium intybus*) and Wild carrot (*Daucus carota*).

Numerous bird species can be found in the area including Bald eagles (*Haliaeetus leucocephalus*), red-tailed hawks (*Buteo jamaicensis*), cooper's hawks (*Accipiter cooperii*), falcon's (*disambiguation*), Canadian geese (*Branta canadensis*), and mallards (*Anas platyrhynchos*) as well as migrating species of gulls (*Larus*, sp.) and terns (*Sternidae*), sandpipers (*Actitis macularia*), American and fish crows (*Corvus brachyrhynchos*), red-wing black birds (*Agelaius phoeniceus*), rock pigeons (*Columba livia*), and great blue herons (*Ardea herodias*). The Breeding Bird Atlas for 2000 through 2005 identified a range of

approximately 53-103 species observed at the various locations within the vicinity of the project corridor. Observed species include a wide range of protected, unprotected, threatened, game and species of concern (Breeding Bird Atlas Data). According to the bird records obtained from locations within one-tenth of a mile from the Chemung River, as depicted in the Geographic Information System (GIS) Shapefile obtained from the Upper Susquehanna Coalition website, approximately two-hundred and four bird species have been observed in the area (Upper Susquehanna Coalition Bird Records).

Ring-billed gulls (*Larus delawarensis*) can also be observed within the vicinity of the proposed trail corridor. A Ring-billed gull colony began nesting on a gravel bar between the Main Street Bridge and the railroad bridge in downtown Elmira in 2002. The colony continues to return each year; according to recent information, over 1,500 gulls occupy the island. Although the Ring-billed gull is not a rare, threatened or endangered species, their nesting colonies are usually in lakes, and generally not this far south. Therefore, the Elmira colony is unusual in that the nesting site is in a river, and that it may be the southernmost colony in the eastern United States.

The Chemung River is a warm water fishery, but has many tributaries that are stocked or support native populations of trout. The waters of the Chemung are dominated by Small mouth bass (*Micropterus dolomieu*) and Walleye (*Sander vitreus vitreus*). Other species such as Largemouth bass (*Micropterus salmoides*), Bullhead (*Ameiurus* sp.), Carp (*Cyprinus carpio*), Muskellunge (*Esox masquinongy*), sunfish (*Lepomis*, sp.), Northern pike (*Esox lucius*), rock bass (*Ambloplites rupestris*) and pickerel (*Esox*, sp.) can also be found in the river. The NYSDEC Regional Offices often conduct surveys of the rivers and streams in the area. The NYSDEC Region 8 Office indicated that a brief survey of the Chemung River was performed within the last two years. A more substantial survey, which focused on the Elmira and Lowman areas, was conducted approximately six years ago (2001-2002). Smallmouth bass (*Micropterus dolomieu*) and Walleye (*Sander vitreus vitreus*) were the predominant gamefish species collected during the surveys. Other species found within the river, as indicated by the NYSDEC Region 8 office, include: Bluegill (*Lepomis macrochirus*), Pumpkinseed (*Lepomis gibbosus*), Yellow perch (*Perca flavescens*), Largemouth bass (*Micropterus salmoides*), Channel catfish (*Ictalurus punctatus*), Brown bullhead (*Ameiurus nebulosus*), Tiger muskellunge (*Esox masquinongy* X *Esox lucius*), and Chain pickerel (*Esox niger*). Forage species within the river include minnows, shiners, and Gizzard shad (*Dorosoma cepedianum*). In addition, the NYSDEC Region 8 office indicated that American shad (*Alosa sapidissima*) is being introduced into the Chemung River as part of a restoration project. The intent is that these fish will return to spawn in a few years. The river has not been stocked with fry in the past two years, but prior to that had been stocked for the previous three years. To date, no adults have returned to the river.

The NYSDEC Natural Heritage response letter dated June 14, 2007 identifies the potential for threatened/endangered plants and animals, as well as significant communities to exist within or adjacent to the project corridor (Appendix – NYSDEC Correspondence). Identified threatened fauna include the Bald Eagle (*Haliaeetus leucocephalus*) and the Green Floater (*Lasmigona subviridis*). Endangered and threatened plant species include Nodding Wild Onion (*Allium cernuum* var. *cernuum*), Wild Hydrangea (*Hydrangea arborescens*), Slender Marsh Bluegrass (*Poa paludigena*) and Michaux's Blue-eyed grass (*Sisyrinchium*

mucronatum). Screenings for the identified species should be performed prior to construction to ensure that none of the identified threatened/endangered species would be impacted by the proposed trail paths, boat launches or other access points.

The United State Fish and Wildlife Service does not list any Federally-listed endangered or threatened species for Chemung County.

An approximately six (6) mile stretch of the Chemung River, in the Town of Big Flats, is listed on the National Park Service (NPS), Nationwide Rivers Inventory. The portion of the Chemung River from a location west of South Corning Road, to Fitch's Bridge is listed for its Geology. This area includes nearly four (4) miles of unique, steep, wooded bluffs and slopes arising to heights of more than 800 feet above the river. This same area is listed by the NYSDEC Natural Heritage Program as a small but pristine example of a cliff community in a remote area with no evidence of disturbance. The area is characterized as rocky cliffs and ledges along ravines and steep slopes of the Chemung River. The area grades into hemlock-hardwood forests in the ravines, Appalachian oak-hickory forest on steep slopes, and Appalachian oak-pine forest on the upper slopes. This area is commonly referred to as the Chemung Palisades. The Chemung Palisades are described as block of contiguous forest that provides a scenic and wildlife habitat resource in the Town of Big Flats. The proposed trail routes and launch sites are not expected to affect the geology of the area; therefore, coordination with the NPS is not expected to be necessary during the construction of the project.

6. HAZARDOUS WASTE AND CONTAMINATED MATERIALS SCREENING

The hazardous waste screening involved a review of publicly available NYSDEC and EPA databases including NYSDEC Inactive Hazardous Waste Sites records, Environmental Site Remediation Database and the USEPA EnviroMapper <http://134.67.99.122/enviro/emef.asp> which identifies hazardous waste sites, discharge sites, toxic release sites and air facilities.

The Environmental Site Remediation Database identifies a total of fourteen (14) cleanup sites within Big Flats and the City of Elmira. Based upon a preliminary review of the location of the sites, the majority are located within the City of Elmira or Big Flats, well beyond the proposed trail routes. The nearest site to the Chemung River is the NYSEG – Water Street – Elmira MGP site, which is located at 500 East Water Street. The site was formerly occupied by the Hartman Lincoln Mercury dealership and auto repair shop, but is presently abandoned. The site is bordered to the north by East Water Street and the Chemung River to the south. No buildings are present on the site. The site operated as a coal carbonization plant between 1849 and 1892; according to NYSDEC records, the plant was dismantled in 1908. A Phase II Environmental Assessment was performed in 1998 and identified the presence of coal tar in the area of the former gas holder. Unless the proposed project involves the use of this property, it is not expected to represent a concern.

The EnviroMapper does not identify any Superfund, Toxic release sites, water discharge sites, or air emissions sites immediately adjacent to the Chemung River corridor. Numerous hazardous waste sites are mapped to the City of Elmira, with some existing in the proximity

of the river; however, due to the nature of the proposed trail work within the city, the sites are not anticipated to represent a significant concern.

A letter was prepared and submitted to the Chemung County Health Department to determine whether their office has any supplemental information regarding potential sites of concern along the river corridor. The CCHD response letter dated August 24, 2007 states that they do not collect or maintain that type of information. They state that the New York State Department of Environmental Conservation is the lead agency with responsibility for hazardous materials in Chemung County and suggest contacting their regional office in Avon, NY. (Appendix – CCHD Correspondence)

III. MASTER PLAN

A. Introduction

The Chemung River Comprehensive Master Plan describes a proposed network of river trails and facilities that link village, town and city centers, riverfront recreation facilities, boat launches, historic and cultural sites, and natural areas. These trail linkages and enhanced river access facilities are illustrated in this chapter in a series of project description tables and maps. Chapter 4 Implementation Strategies and Costs provides information about project phasing and development costs, and describes high-priority projects in more detail.

Following is a brief overview of the types of trails that are proposed to enhance connectivity along the Chemung River corridor.

1. Multi-Use Trails

The most popular and effective way to improve public access to the Chemung River is through the development of a network of multi-use trails (this according to a survey of attendees at the September public meeting). Trails can range from informal, unsurfaced paths along the river, many of which already exist, to paved 10-12' wide asphalt multi-use trails that serve both a transportation and recreational function. Hard surface trails are flood resistant and accessible. Importantly, there are significant federal and state funding sources available for these types of projects because they promote non-motorized transportation, active living, tourism, and economic development.

The development of a continuous, 10-12' wide asphalt multi-use trail along the river in Chemung County is one of the key recommendations of this master plan. This will, however, be achieved in phases over an extended period of time. Key projects identified as high priority should be implemented during the next 5 years to help build momentum for continued trail development and river corridor enhancement. Coordination with adjacent counties and municipalities should be undertaken to ensure that river trail development extends beyond the Chemung County line and links to existing and proposed trails in both Steuben and Tioga Counties, in New York State, and Northern Bradford County in Pennsylvania.

Equestrian Trails

Equestrian use of this trail network in the areas outside of Elmira should be promoted where space allows and particularly in areas where there are adjacent stables, farms, and equestrian facilities. To safely accommodate horses within a multi-use trail corridor, a 20' wide corridor is required to provide 10' minimum for the surfaced multi-use trail, and a 10' unimproved trail surface for horses.

Development of separate equestrian trails, independent of the proposed multi-use trail network, is also recommended. These trails can be less costly to develop than multi-use trails and may be possible without the long-term easement agreements required when federal funding is involved in a project, as is common with multi-use trail development. In areas where space is limited or

Chemung River Trail – River Trails Master Plan

at road or waterway crossings, the trail or a bridge can accommodate all types of trail users, including horses, to provide needed connectivity. The Towns of Big Flats, Ashland and Chemung should all encourage the development of equestrian trails along the river with linkages to existing stables and facilities to both serve existing resident equestrians and to enhance equestrian visitation which in-turn will bring economic benefits.

2. On Road Bikeways

On-road bikeways are an important element of the county's non-motorized transportation infrastructure. The road network connects all destinations in the county and, in general, bicycling conditions on all roads should be improved to increase safety for bicyclists and motorists. Many touring cyclists, generally a skilled group who are comfortable riding on roads, prefer riding on roads as opposed to trails. This is a group that the County should attempt to attract due to their generally high disposable income and excellent on-road bicycling in the Finger Lakes and Southern Tier Regions.

Bike Route 17 is a statewide bike route mapped and signed by the NYS Department of Transportation. It is one of many long-distance bicycle touring routes identified by the department to indicate to cyclists routes that run on or parallel to major state highway corridors and link many of New York State's communities and key destinations. These bicycle routes do not always present optimum bicycling conditions, but the state selected the routes deemed the most safe and comfortable for bicyclists. One benefit of the state bike route is bicycling conditions are more likely to be improved when road reconstruction projects occur on these designated routes.

Bike Route 17 is shown on all of the corridor plans. It follows Route 352 in Big Flats and the Town of Elmira – West. In the City, the route is split on both Water and Church Streets, a one-way pair through Elmira, north of the river. It turns south and crosses the Chemung River onto Maple Avenue and Route 427. BR 17 stays on Route 427 past Wellsburg to Exit 59, where it turns north, then east on County Route 60 to Waverly.

Route 60 Bikeway

Route 60 between Lowman and Exit 59 is an historic area with excellent bicycling conditions and very nice scenery. It is included in the plan as a proposed on-road bikeway. River Road has an on-road trail alongside a one-way travel lane and can be designated as an alternative to Route 60. In the long term, as road resurfacing or reconstruction occurs, improvements to the roadway beyond this designated trail for biking should be considered.

3. Blueway or Water Trail

The Chemung River is a very scenic river corridor with abundant fish and wildlife resources. It is a Class 1 river, excellent for beginning and intermediate paddlers. The Chemung River has virtually no whitewater, making it easy to navigate. Obstacles, for the most part, are visible particularly when water levels are reasonably high. Generally, the river corridor appears natural and relatively unspoiled, even when near the City of Elmira and other settled areas, with the exception of Chase-Hibbard Dam.

Chemung River Trail – River Trails Master Plan

In order to enhance and promote the region for paddling some improvements to the paddling 'infrastructure' should be considered. Specifics are described in the project description charts that follow. Improvements that would enhance paddling opportunities include the following:

1. Encourage an outfitter set up a business in Chemung County to sell and rent equipment, provide guides and tours, classes for beginners, and to promote the region to the paddling public.
2. Improved boat launch facilities including more restroom facilities, improved launch ramps, parking, landscaping, information kiosks, and bicycle and boat racks. Primitive camping opportunities should be expanded at some existing boat launch facilities.
3. The Chase-Hibbard Dam in downtown Elmira, downstream of the Grove Street Boat Launch, presents a significant barrier to paddlers. Development of a planned portage trail on the Dam's south end and a proposed Whitewater Park on the Dam's north side would make this barrier navigable and safe to paddlers.

Following is a brief overview of paddling conditions along the corridor:

- **River Road to Bottcher's Landing Boat Launch:** 4 miles separate River Road Launch in Steuben County, west of the Chemung County line and of Bottcher's Landing Boat Launch. This is a very scenic section of the rivers with many crooks and elbows that add interest to the river corridor. While this study focuses on areas within Chemung County, it is critical to strengthen linkages to Corning and Steuben both for boaters and land-side users.
- **Bottcher's Landing Boat Launch to Minier's Field Boat Launch:** Only one mile separates these two Big Flats facilities, too short a distance for a satisfying paddle. However, the Chemung River between the two launches is undeveloped and very scenic with Stegge Hill Nature Preserve on the south and Willow Creek Golf Course on the north bank. A large island in the river provides variety in the river's route. Minier's is located on the main river channel to the north of the island, so paddlers who take the south channel around the island may miss this launch facility. Either Bottcher's or Minier's is an excellent starting point for a paddle to Fitches Bridge Boat Launch or beyond.
- **Minier's Field Boat Launch to Fitches Bridge Boat Launch:** About five miles and a one to two hour paddle separate these two launches. The River between Minier's Field and Fitches Bridge Boat Launches is one of the most scenic river sections in Chemung County. Paddlers may see Turkey Vultures, beaver, herons and other interesting birds and wildlife as they pass Frenchman's Bluff and the Palisades and progress east towards Fitches Bridge. There are many back channels and islands in this section which provide scenic variety and different paddling challenges.
- **Fitches Bridge Boat Launch to Grove Street Boat Launch:** These launches are approximately 3 miles apart, a nice 1 hour+/- paddle. When river water levels are down, Fitches Bridge Launch is a good place to launch. Paddlers will pass Rorick's Glen, Pirozzolo Park and the Water Board Building/Civil War Encampment site in this section. Minier's Field to Grove Street is a popular eight mile, 2+ hour paddle.

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- **Grove Street Boat Launch to Dunn Field Boat Launch:** Many paddlers will put in at Grove Street and paddle upstream towards Rorick’s Glen in the deeper and calmer waters of this section of the river. The pool in the area is caused by the water backing up behind Chase Hibbard Dam which is just east and downstream of Grove Street. Because of the dam and difficult portage in this area, Grove Street to Dunn Field Launch is not a popular or recommended run. See priority project descriptions for proposed portage trail and whitewater facility development plans in this area, both which would enhance connectivity between these launch facilities. The downtown Elmira whitewater facility could be a major destination for paddlers and create an exciting attraction for Elmira residents and visitors.
 - **Dunn Field Boat Launch to Toll Bridge Boat Launch:** This 6 mile section of the river is a popular paddling trip that offers attractive scenery and a variety of route possibilities due to islands and back channels.
 - **Toll Bridge Boat Launch to Tozier’s Boat Launch:** Toll Bridge Boat Launch is one of the best boat launches in Chemung County with camping, restrooms, picnic pavilion, nice river scenery and fishing, and a surface launch ramp. The thirteen mile, four hour paddle between Toll Bridge and Tozier’s is a scenic and very rural stretch, with some of the more challenging paddling river sections in the county.
4. **TRAIL FURNISHINGS** – See Chapter V.

B. Proposed Trail Description and Plans

The Chemung River Comprehensive Master Plan is represented below by various maps and tables. The Key Map (immediately below) shows the entire project area. Individual maps, showing sections of the project area (squares below), are followed by Project Description Tables. These tables relate to a specific map and explain proposed improvements and trail development issues in that particular area. The tables also highlight the priority of individual projects: short, medium or long term. Short Term projects are expected to occur within a five year window of 2008. Medium Term projects are expected to occur within five to ten years and Long Term projects may occur after ten years. The charts identify the projects within the project areas and are briefly described. Project priorities, as determined by the Chemung County Waterfront Advisory Committee (CCWAC), are shown in the columns to the right.



Key Map

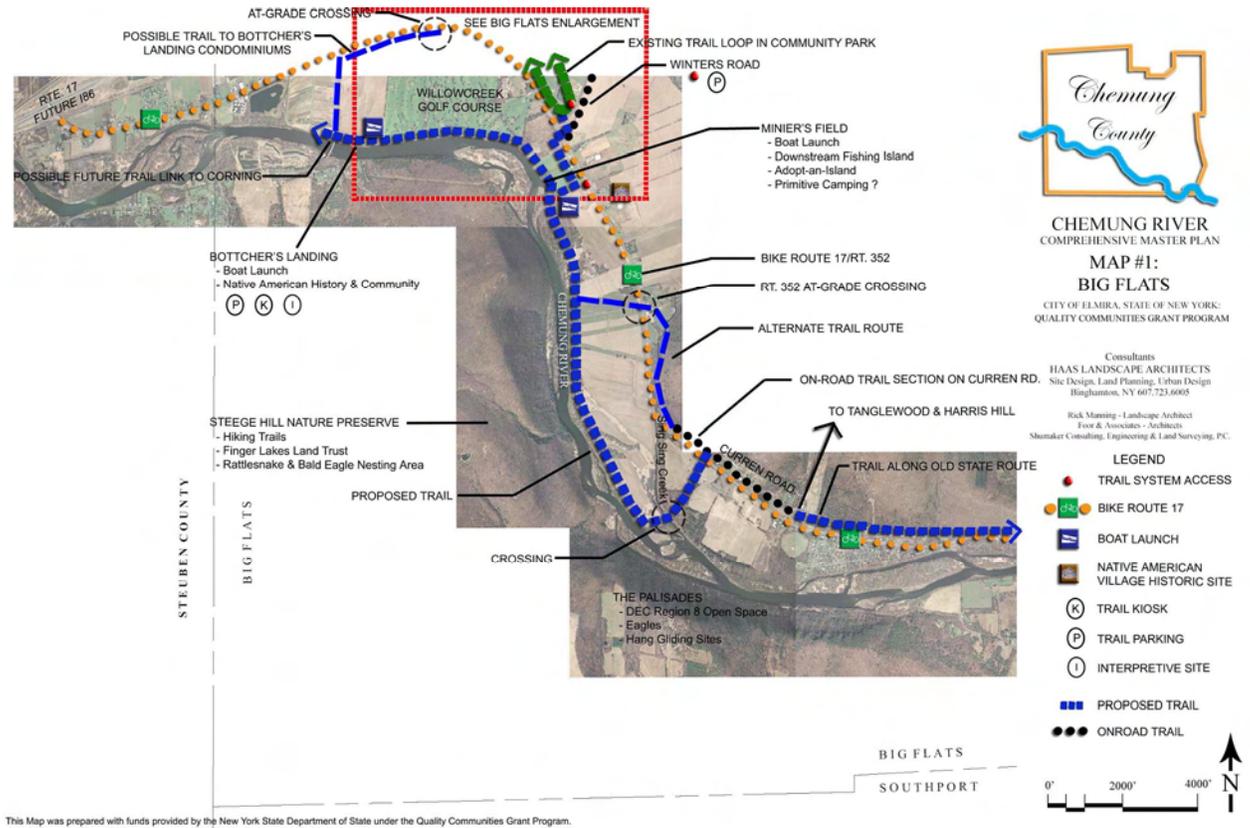
A Limited number of projects were identified as “Priority Projects” by the CCWAC. These describe in more detail the improvements and issues relevant to each project. A separate project sheet has been prepared for use in the preparation of grant proposals, promotion, or discussion of the project(s). These can be found in the Appendix – Priority Projects.

The following “Priority Project” that relates to the overall project and was identified by the CCWAC can be found in Appendix – Priority Projects.

- Information Kiosks and Comprehensive Trail Signage System

1. Big Flats Trails (Maps 1 & 1A)

The Town of Big Flats has proven to be progressive in their planning for future recreational opportunities with many excellent park and trail facilities already developed. Many citizens and town board and committee members attended the Chemung River public meetings to voice their concerns and describe their vision. Most of the community is rural or suburban, with the exception of the commercial district that lies between Rte. 17 (I-86) and Main Street and the Consumer Square commercial area off of Route 17 (I-86). **Map #1: Big Flats** focuses on the river corridor in the western section of the Town The **Big Flats Enlargement, Map #1A**, is referenced on Map #1 (red square) and illustrates the generous open space designated for Community Park, south of Main Street, and the potential connections to Willowcreek Golf Course and the two boat launches along the banks of the Chemung. It also illustrates numerous bicycle and pedestrian improvements in the town center to enhance linkages between the river, existing trails and recreation facilities, and commercial and residential areas.



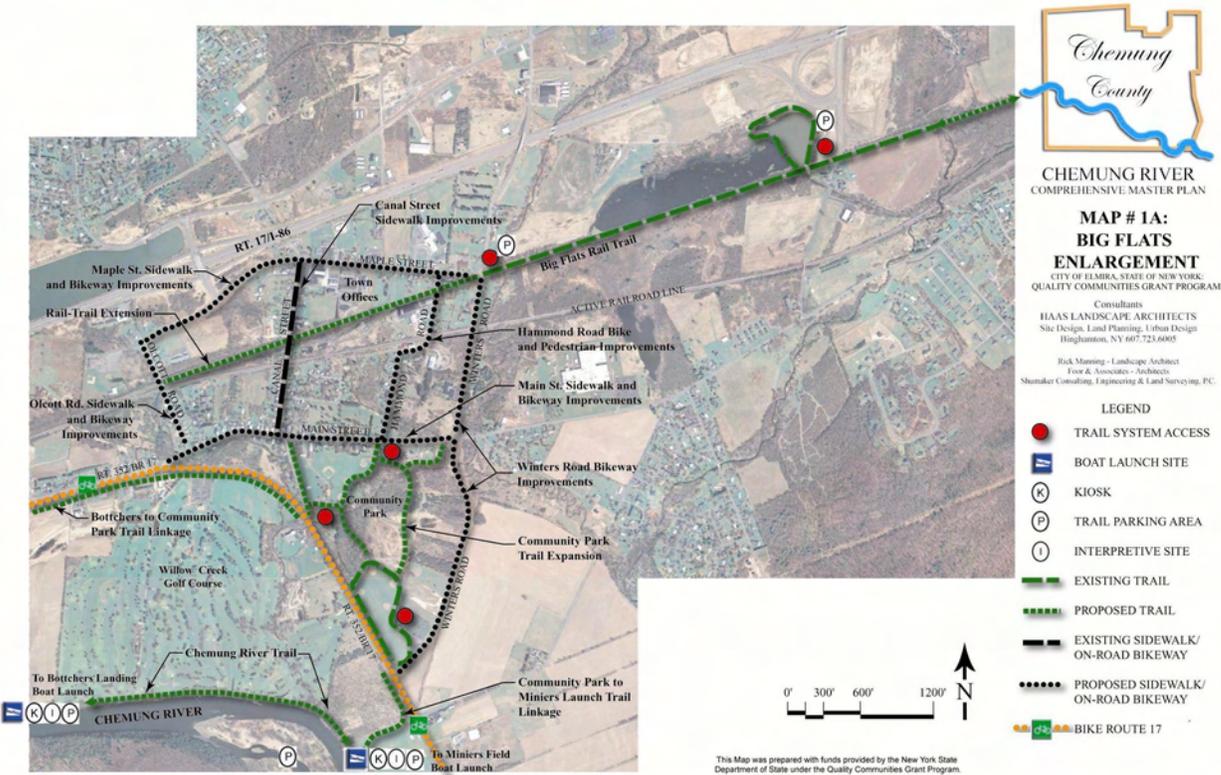
Map #1: Big Flats

Project Description Table 3-1

Big Flats (Map #1)

<u>Project Name</u>	<u>Project Description</u>	Short Term	Mid-Term	Long Term
BOTTCHER'S LANDING BOAT LAUNCH	<p>Bottcher's Landing Boat Launch is an attractive Town of Big Flats boat launch with a gravel parking lot, concrete launch ramp, information kiosk, picnic benches and attractive river views.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> • New Chemung Riverway information kiosk, picnic pavilion, and bike and boat racks. • Improve access road surfacing and signage to enhance visibility and ease of vehicular access. • Create trail linkages along river to Corning and Minier's Field Boat Launch and to Big Flats' Town Center. 		X	
RIVER TRAIL: BOTTCHER'S LANDING TO MINIER'S FIELD	<p>Proposed 1.25 mile proposed multi-use trail following the northern bank of the Chemung River, linking Bottcher's Landing to Minier's Field Boat.</p> <p>Trail development issues:</p> <ul style="list-style-type: none"> • The majority of the proposed trail is located on privately-owned lands including farm land and the Willowcreek Golf Course. Easements or corridor acquisition will be required. • The proposed trail is located in the river floodplain. Hard surfacing will be required to resist flood damage. • Fencing and/or screening will be required to protect trail users from errant golf balls. 	X		
MINIER'S FIELD BOAT LAUNCH	<p>Minier's Field Boat Launch is a small boat launch facility with gravel parking lot, an unpaved, narrow launch ramp, and an information kiosk. It is part of Town of Big Flats athletic field complex along Route 352.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> • Pave and widen boat launch ramp • New Chemung Riverway kiosk, bike and boat racks, and composting restroom. • Create trail linkages along river to Bottcher's Landing and Fitches Bridge Boat Launch and to Big Flats Community Park and the Big Flats Town Center. 		X	
RIVER TRAIL: MINIER'S FIELD TO TROLLEY LINE CORRIDOR	<p>3.5 mile proposed multi-use trail section linking Minier's Field Boat Launch to the west end of the historic Corning to Elmira Trolley Corridor at Old Narrows Road.</p> <p>Trail Development Issues:</p> <ul style="list-style-type: none"> • The first section of trail is located in floodplain along the riverbank and on privately-owned farmland. • The proposed trail will cross Sing Sing Creek requiring the construction of a major trail bridge • The proposed trail will cross Route 352 and link to Curren Road where it becomes an on-road trail section. East of Curren Road it is in the wide north shoulder of the Route 352 right-of-way, then along Old State Road and Old Narrows Road until it meets the historic trolley corridor right-of-way across 352 from Cottage Drive East. 			X

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The following “Priority Projects” identified by the CCWAC in the Big Flats area can be found in the Appendix.

- Community Park to Minier’s Field Boat Launch
- Bottcher’s Landing to Minier’s Field

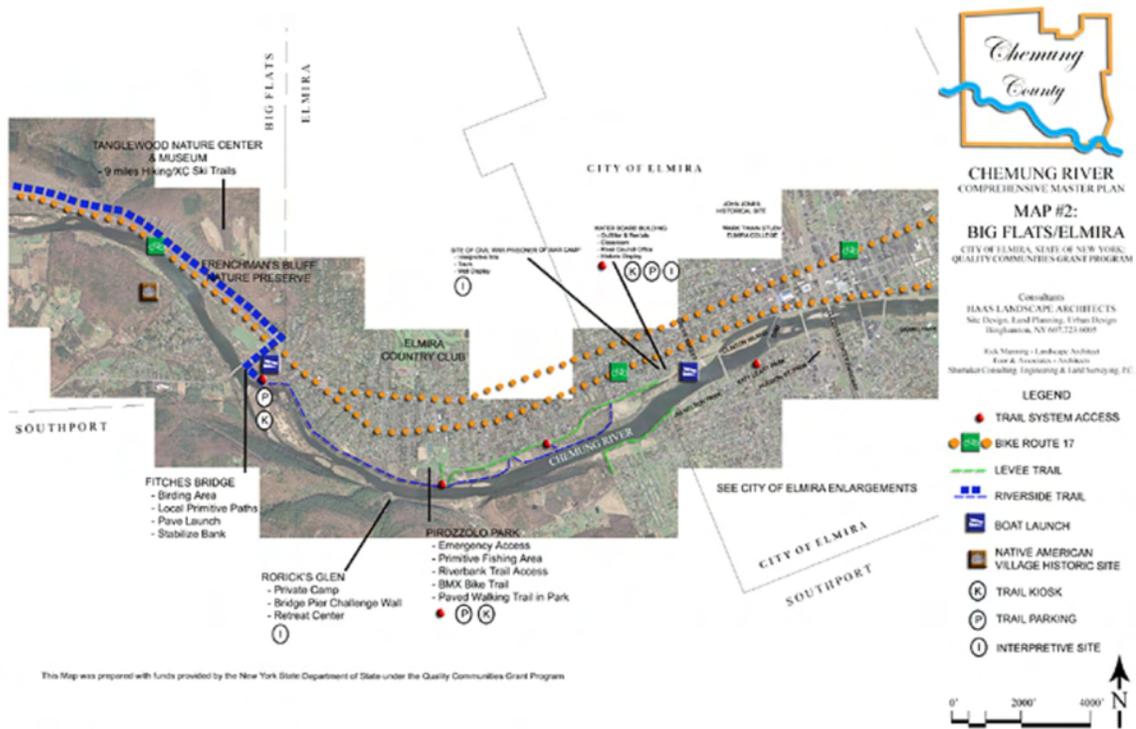
Project Description Table 3-2

Big Flats Enlargement (Map # 1A)

Town of Big Flats				
Project Name	Project Description	Short Term	Mid-Term	Long Term
TRAIL LINKAGE: BOTTCHER'S LANDING BOAT LAUNCH TO COMMUNITY PARK AND TOWN CENTER	<p>Proposed 1.25 mile multi-use trail linking Bottcher's Landing Boat Launch to Community Park and Town Center street network.</p> <p>Trail Development Issues:</p> <ul style="list-style-type: none"> • Develop trail along boat launch access lane and along east shoulder of South Corning Road. • Develop trail along road edge of Bottcher's Landing multi-family residential development. • Develop trail along south edge of Rt. 352 right-of-way with crossing(s) at Main Street and/or River Street. 		X	
TRAIL LINKAGE: COMMUNITY PARK TO MINIER'S FIELD BOAT LAUNCH	<p>Proposed half mile multi-use trail linking the existing loop trail in Community Park to Minier's Landing Field and Boat Launch.</p> <p>Trail Development Issues:</p> <ul style="list-style-type: none"> • Enhance signage at crossing of Route 352 of Winters Road. • Develop trail in south shoulder of Route 352 between Winters Road and the park. • Develop trail along parking area and boat launch access road. If feasible, develop loop trail in Minier's Landing on perimeter of park (loop trail concept not included in cost estimate) 	X		
COMMUNITY PARK TRAIL EXPANSION	<p>Community Park has an existing 6' wide, one-way asphalt trail loop in the southern section of the park. This is a popular exercise loop.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Expand existing loop trail in park to lengthen and diversify trail routes in the park. • Extend trail to all existing park entries. • Create a new trail entry at northeast corner of park, the intersection of Main Street and Winters Road. 		X	
BIG FLATS TOWN CENTER BIKE AND PEDESTRIAN IMPROVEMENTS	<p>Big Flats' town center has poor infrastructure for walking and biking. The following streets are proposed for possible bicycle and pedestrian improvements.</p> <p>Proposed Bicycle and Pedestrian Improvements:</p> <ul style="list-style-type: none"> • Rail Trail Extension to Canal Street and to Olcott Road • Hammond Road sidewalk and bikeway improvements • Hibbard Road bikeway improvement • Main Street sidewalk (2 sides) and bikeway • Canal Street sidewalk improvements • Maple Street sidewalk and bikeway • Olcott Road sidewalk and bikeway 			X

2. Town of Big Flats/Elmira (Map #2)

The Towns of Big Flats and Elmira have limited park and trail facilities but offer a majority of conservation lands and scenic resources. Committee members attended the trolley tour and public meetings to voice their interests. Most of the community is rural or suburban, with the eastern end merging into the historic West Side Neighborhood. **Map #2: Big Flats/Elmira** focuses on the river corridor along the north shore and illustrates the strategic location of Pirozzolo Park, where the levee system ends. Improvements here could supplement the Town’s current Master Plan for the park and provide much needed walking amenities. The map allows potential connections to residential neighborhoods that abut the Chemung’s north bank, and connects existing boat launches at Fitches Bridge and Grove Street. Numerous bicycle and pedestrian improvements within the town would encourage a healthy lifestyle and be a bonus for residents looking for nearby recreation alternatives to residential areas that currently are limited. The following table provides descriptions of a few of these recommendations.



Map #2: Big Flats/Elmira

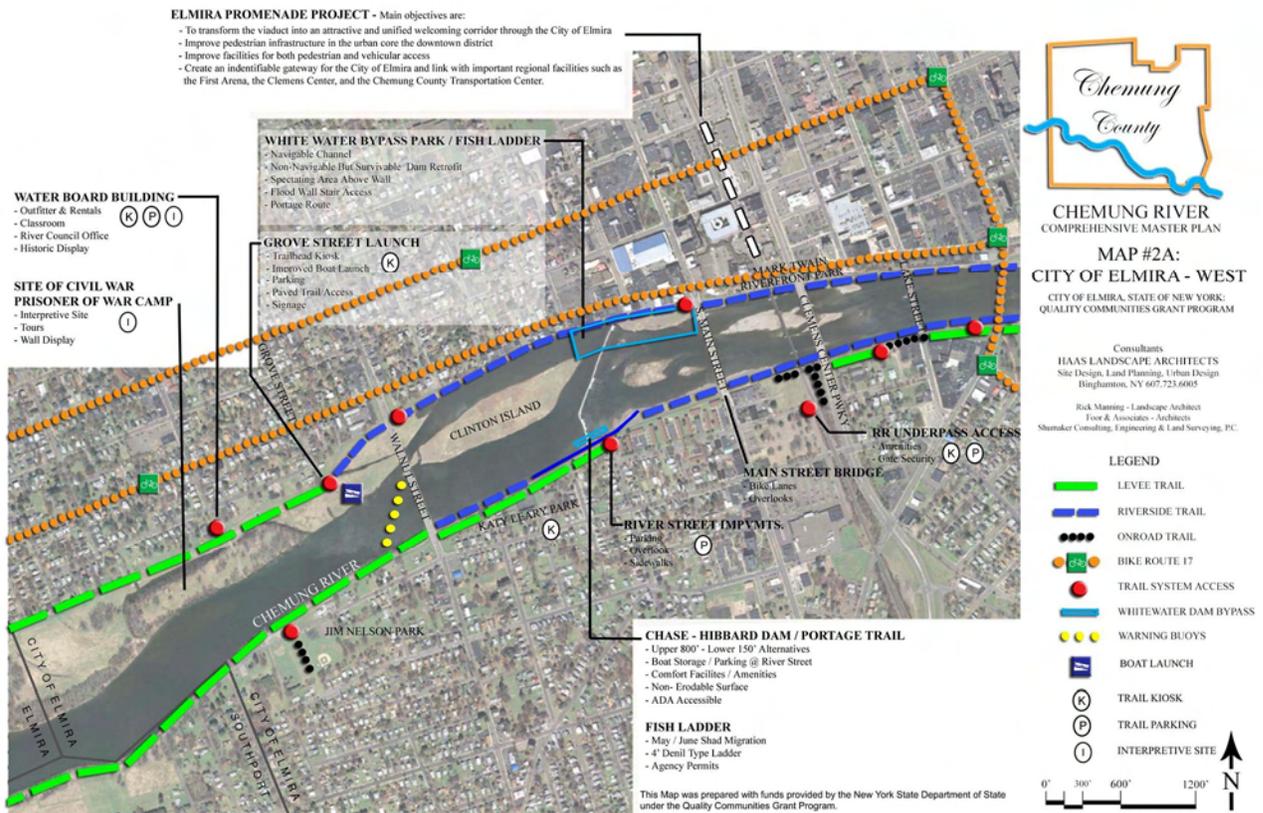
Project Description Table 3-3

Towns of Elmira-West and Southport-West (Map # 2)

Town of Elmira – West				
Project Name	Project Description	Short Term	Mid-Term	Long Term
RIVER TRAIL: HISTORIC TROLLEY LINE	Proposed multi-use trail on existing historic trolley line right-of-way between Old State/Old Narrows Road and Town of Elmira Highway Department. Trail Development Issues: <ul style="list-style-type: none"> • Coordinate trail development with utility line that is currently occupying part of corridor • Determine if guide rails may be needed where trail to be adjacent to steep embankments. • Verify corridor ownership. • Create trial crossing of Route 352 at Route 225. 			X
RIVER TRAIL: FITCHES BRIDGE BOAT LAUNCH TO PIROZZOLO PARK	5800' proposed multi-use trail section linking Fitches Bridge Boat Launch to Pirozzolo Park in the Town of Elmira. Proposed Improvements: <ul style="list-style-type: none"> • Create 5800' multi-use trail in the floodplain area along the river from Fitches Bridge Boat Launch to Pirozzolo Park. • Provide directional signs within neighborhoods directing residents to trail and trail parking areas. 		X	
PIROZZOLO PARK IMPROVEMENTS	Active town park with numerous playing fields, pool, concessions and parking areas. Proposed Improvements: <ul style="list-style-type: none"> • Develop emergency river access ramp. • Paved perimeter walking path in park. • Improve fishing access. • Riverbank Trail access. • BMX Bike Trail. 	X	X	
RIVER TRAIL FROM PIROZZOLO PARK TO CITY LINE	5800' proposed multi-use trail section linking Pirozzolo Park to the east end of the Levee Trail. Proposed Improvements: <ul style="list-style-type: none"> • Develop a 5800' multi-use trail from Pirozzolo Park to City line on or below existing flood levee. (Note that the levee trail will continue to Grove Street Launch in the City of Elmira.) 		X	X
ALTERNATIVE TRAIL ROUTE PIROZZOLO PARK TO CITY LINE	Possible 6300' multi-use trail alternative to the proposed River Trail route described above. Could be developed as a loop trail. Proposed Improvements: <ul style="list-style-type: none"> • Develop a 6300' trail route alternative in river floodplain linking Pirozzolo Park to Levee Trail near City line. 			X
Town of Southport – West				
RORICK'S GLEN HISTORIC SITE	Former trolley amusement park with remnant bridge abutments crossing river. Proposed Improvements: <ul style="list-style-type: none"> • Provide interpretive panel about site history • Consider bridge pier challenge wall • Consider retreat center 			X

4. City of Elmira – West (Map #2A)

The proposed Levee and Riverside Trails follow the north and south shores of the Chemung River through the heart of the City of Elmira. A white water bypass park with a fish ladder is suggested for the north shore, while a portage trail is planned for the south shore near the Chase-Hibbard Dam. The City has a rich history and several sites along the River are excellent locations for trail access and interpretive signage. Among them are the site of the Civil War Prisoner of War Camp/Water Board Building and the site of the Sullivan Army Encampment, the future site of the Gateway Living History Park and Visitor Center (See #5 below). Other access points to the river trail are parks and boat launches at Grove Street and Dunn Field. Joining the River Trails are the Elmira Promenade and the Lackawanna Trail.



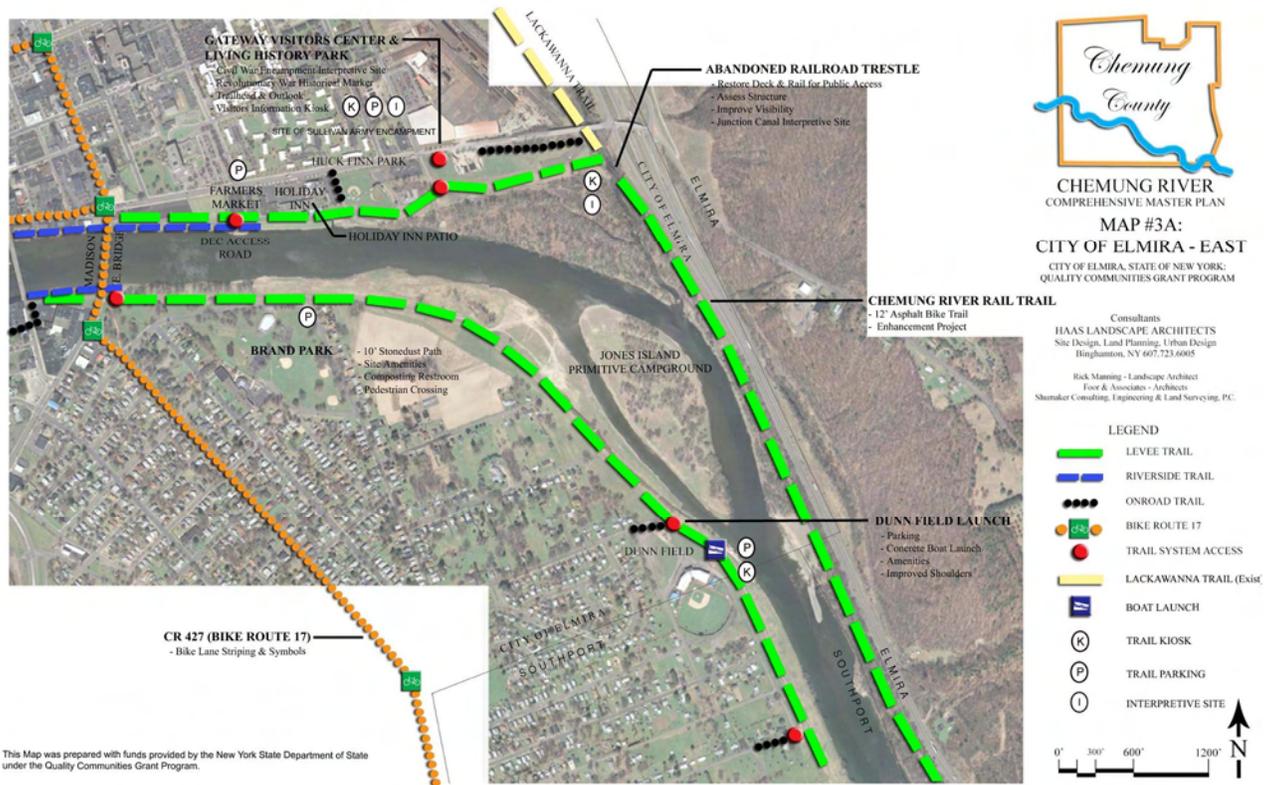
Map #2A: City of Elmira - West

The following “Priority Projects” identified by the CCWAC can be found in the Appendix.

- Katy Leary Park/S. Levee Access at River Street
- Chase-Hibbard Dam/Portage Trail

4. City of Elmira - East (Map #3A)

The proposed Levee and Riverside Trails follow the north and south shores of the Chemung River from the heart of the City of Elmira. A ramped DEC access is proposed to be improved for the north shore near the Holiday Inn, to access the riverside portage trail. Access to the south shore is also proposed along a similar DEC ramp west of the Madison Ave. Bridge. The City controls much property along this stretch and several existing recreational sites along the River offer excellent locations for trail access and interpretive signage. Among them are the site of the Huck Finn baseball complex and the site of the Sullivan Army Encampment - the future site of the Gateway Living History Park and Visitor Center (See #5 below). Other access points to the river trail are parks and boat launches at Brand Park and Dunn Field. Joining the River Trails are the Lackawanna Trail (from Eldredge Park) and the proposed Chemung River Rail Trail.



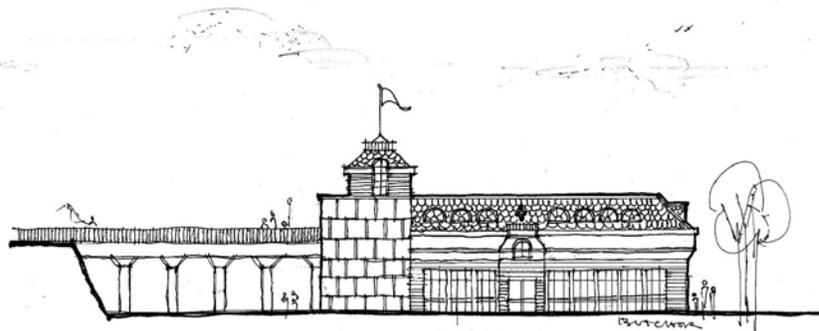
Map #3A: City of Elmira - East

The following “Priority Project” identified by the CCWAC can be found in the Appendix.

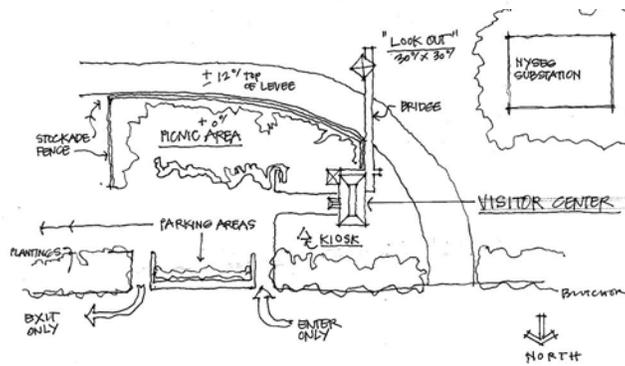
- Visitor Center – Gateway Living History Park

5. Gateway Living History Park and Visitor Center

A Visitor Center is proposed to be an introduction for first-time visitors to Chemung County, Elmira and the Chemung River trails. Located at a key gateway to the City of Elmira from NYS Route 17/future I-86 immediately off exit 56, it will also serve as a strategic hub where three major trails merge. This site is visible from the highway, adjacent to the historic Junction Canal, Newtown Creek, and the Lackawanna Rail spur into the City. This Center will house a permanent collection and space for changing exhibits. Visitors will be introduced to the rich history of the Chemung Valley from its indigenous peoples, its role during the American Revolution and founding of our nation, the area's development prior to the American Civil War and its role during that tragic period of American history. Exhibits will also include notable persons and other historical sites within the County and City of Elmira. The site provides a strategic trailhead to the regional greenway and river trail system. Visitors will have the opportunity to experience the area's Revolutionary and Civil War histories through the thematic design of the facilities, displays and exhibits. Educational experiences through tours and seasonal displays will be provided by the Waterfront Advisory Committee and local schools. Reenactments can be scheduled in adjacent open space and campsites visible to the public will be an added benefit to tourism. The building's design and components too will serve to educate visitors to sustainable architecture and our stewardship of the natural environment.



MAIN ENTRANCE
1/16" = 1'-0" 12.17.2007



EAST WATER STREET
SITE PLAN
NO SCALE 12.17.2007

Project Description Table 3-4

City of Elmira (Map # 2A, 3A)

<u>Project Name</u>	<u>Project Description</u>	<u>Short Term</u>	<u>Mid-Term</u>	<u>Long Term</u>
<u>Elmira Promenade Project</u>				
ELMIRA PROMENADE PROJECT	<ul style="list-style-type: none"> • Transform Viaduct into welcoming corridor • Improve pedestrian infrastructure • Improve pedestrian & vehicular access • Create identifiable gateway for City • Link important regional facilities 		X DOT-TEP	
<u>Levee Trail – North Shore</u>				
TOWN LINE TO GROVE ST. LAUNCH	<p>Proposed 2700' multi-use trail following the northern bank of the Chemung River, linking the western section of the trail with the Grove Street Boat Launch.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Trailhead • Trail Kiosk 		X	
CIVIL WAR PRISON CAMP	<p>Proposed Interpretive Site, commemorating the site of the Civil War era Elmira Prison Camp to include trailhead, interpretive kiosk, trail parking.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Trailhead • Interpretive Site • Trail Kiosk • Wall Display • Trail Parking 		X	X NYS-EPF Grant
WATER BOARD BLDG DISPLAY	<p>Future renovation of this municipally owned Water Board Building is strategically located at the site of the Prison Camp. An adaptive reuse of this structure to house a retailer or outfitter that could take advantage of the Chemung River access and the site's history, and proximity to future trail development. Placing structure on tax rolls is an economic benefit.</p> <p>Proposed Uses:</p> <ul style="list-style-type: none"> • Outfitter & Rentals • Waterfront Advisory Committee Office/Meeting space • Historic Display 		X	X
MAIN STREET BRIDGE – North Stair Access	<p>Open space provides access from Main Street and Riverfront Park to portage trail below floodwall via a new staircase. Current Restore NY Grant should supplement this development with new infill to adjacent buildings.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Trailhead Improvements – north end of Bridge • Add Over the Wall Staircase • Add Pedestrian Overlooks @ Railing and Bike Lanes • Lighting on Bridge to highlight arches/structure 		X NYS-EPF Grant	X
GROVE STREET LAUNCH	<p>Grove Street Boat Launch is a small boat launch facility with gravel parking lot and a concrete launch ramp. It is accessible from Grove Street over levee.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Boat Launch/Dock – edge protection • Trailhead/Levee Trail connections • Major Trailhead Kiosk • Festival Parking <p>Trail Development Issues:</p> <ul style="list-style-type: none"> • Dangerous site line at access to be modified or redesigned 	X NYS DEC	X	

Chemung River Trail – River Trails Master Plan

MARK TWAIN RIVERFRONT PARK	<p>A City park on the north shore of the Chemung River between S. Main Street and Lake Street, features a recirculating fountain, benches and a view of the Chemung River. It is the former site of "Music on the Riverfront".</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Site and Landscape Improvements • Café Space (private/public partnership) • Reconstruct Overlook and Interpret Ecological river features 		X	X
MADISON AVE TO HUCK FINN FIELD	<p>Proposed 1750' multi-use trail following the northern bank of the Chemung River, linking Sly Street with Huck Finn Field.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Minor Trailhead • Improve DEC Access Road with directional signs 		X NYS-EPF Grant	
HUCK FINN FIELD IMPROVEMENTS	<p>Huck Finn Field, on the north shore of the Chemung River next to East Water Street Park, features ball fields and parking. Huck Finn Little League, for children ages 5 – 15 plays here.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • (Sign) 2 Trailheads • Stripe On-road Bike Trails 		X	X NYS-EPF Grant
OFF-ROAD TRAIL: JUDSON & SULLIVAN ST.	<p>Proposed Improvements:</p> <ul style="list-style-type: none"> • (Sign) Trail Access • Stripe On-road Bike Trails • New Sidewalks 			X
HUCK FINN FIELD TO LACKAWANNA TRAIL	<p>Proposed 2100' multi-use trail following the northern bank of the Chemung River, linking Huck Finn Field to the Lackawanna Trail.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Trail Access and Controls • Parking for Park and Trail Use 		X	
EAST WATER ST. PARK	<p>Adjacent to Huck Finn Field on the north shore of the Chemung River. City owned LL practice field adjacent to future Levee trail access.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Trailhead • Gateway Center Picnic Area and Overlook 		X	
GATEWAY LIVING HISTORY PARK	<p>Proposed Gateway Living History Park, located at Exit 59 off Rte. 17/I-86, to offer Visitor's Center, Kiosk, historic building replicas (such as Civil War Barracks), living history demonstrations and a permanent memorial area commemorating the Sullivan campaign and the Newtown Battle. Also to be included are a multi-purpose riverfront recreational facility with trails, class 1 bikeway, play areas, and picnic facilities. Potential to coordinate with future NYSDEC Maintenance facility.</p> <p>Proposed Improvements:</p> <ul style="list-style-type: none"> • Revolutionary War Historical Marker • Historic Site Interpretation, Civil War Encampment Interpretive Site • Trailhead to 3 Trails • Potential Conservation Easement along riverbank • On-Road Trail: Water Street East to Lackawanna Trail • Civil War Encampment Interpretive Site • Visitors Information Center & Chamber Kiosk • Future DEC Maintenance Facility 		X NYSDOT City NYSDEC NYS - EPF NFP Groups	X

Chemung River Trail – River Trails Master Plan

		Short Term	Mid-Term	Long Term
<u>Levee Trail – South Shore</u>				
RIVER TRAIL: SOUTHPORT TOWN LINE TO FULTON ST.	Proposed 3600' multi-use trail following the southern bank of the Chemung River, extending from the Southport Town Line to Fulton Street. <ul style="list-style-type: none"> Trailheads 			X
LEVEE TRAIL: JIM NELSON PARK	Located on West Hudson Street on the south shore of the Chemung River, the park features a super-long slide, a baseball field, basketball courts, playground equipment and a pavilion. <p>Proposed Improvements:</p> <ul style="list-style-type: none"> Trailhead OFF-Road Trail Access to Levee 		X	
KATY LEARY PARK S. LEVEE ACCESS @ RIVER STREET	Along the south shore of the Chemung River at Connelly and River Streets, Katy Leary Park is named for Mark Twain's cook at Quarry Farm. It features a pavilion, tennis courts, playground and visual access to the river. River Street is in poor condition and requires improvements to drainage, and bike/ped. access. Potential for a trailhead kiosk and parking is good. Stair access over the floodwall will provide seasonal connection to trails. <p>Proposed Improvements:</p> <ul style="list-style-type: none"> Trailhead Kiosk, Parking drainage improvements and sidewalks Picnic, landscaping, & upgrade of park amenities to foster programs Floodwall Stair Access with Bike Storage Park Overlook to River Comfort facilities (seasonal) 	X River St. Improvements	X Trailhead & Stair Access Park Upgrades	X Comfort Facility & Overlook
MAIN STREET BRIDGE	Proposed Improvements: <ul style="list-style-type: none"> Trailhead Improvements – north end Add Bike Lanes Add Pedestrian Overlooks @ Railing Lighting on Bridge to highlight arches/structure 			X
ON-ROAD TRAIL: MAIN ST TO CLEMENS CTR PKWY	Proposed Improvements: <ul style="list-style-type: none"> Trailhead River Trail On-road Trail 		X	
RIVER TRAIL: CLEMENS CTR PKWY TO TRAIL HEAD @ DEC ACCESS RAMP (Madison Ave Br)	Proposed 400' multi-use trail following the southern bank of the Chemung River, extending from Clemens Center Parkway to Trailhead @ DEC Access Ramp (Madison Ave Bridge) <p>Proposed Improvements:</p> <ul style="list-style-type: none"> Trailhead 		X	
BOARDWALK TRAIL: TRAILHEAD TO LAKE ST.	Proposed Improvements: <ul style="list-style-type: none"> Trailhead (same as above), with potential boardwalk behind bldg. River Trail and access over floodwall Designated pedestrian crossing at S. end of Bridge 		X	
RIVER TRAIL: LAKE STREET TO SLY STREET	Proposed 400' multi-use trail following the southern bank of the Chemung River, extending from Lake Street to Sly Street. <p>Proposed Improvements:</p> <ul style="list-style-type: none"> Trailhead 			X

Chemung River Trail – River Trails Master Plan

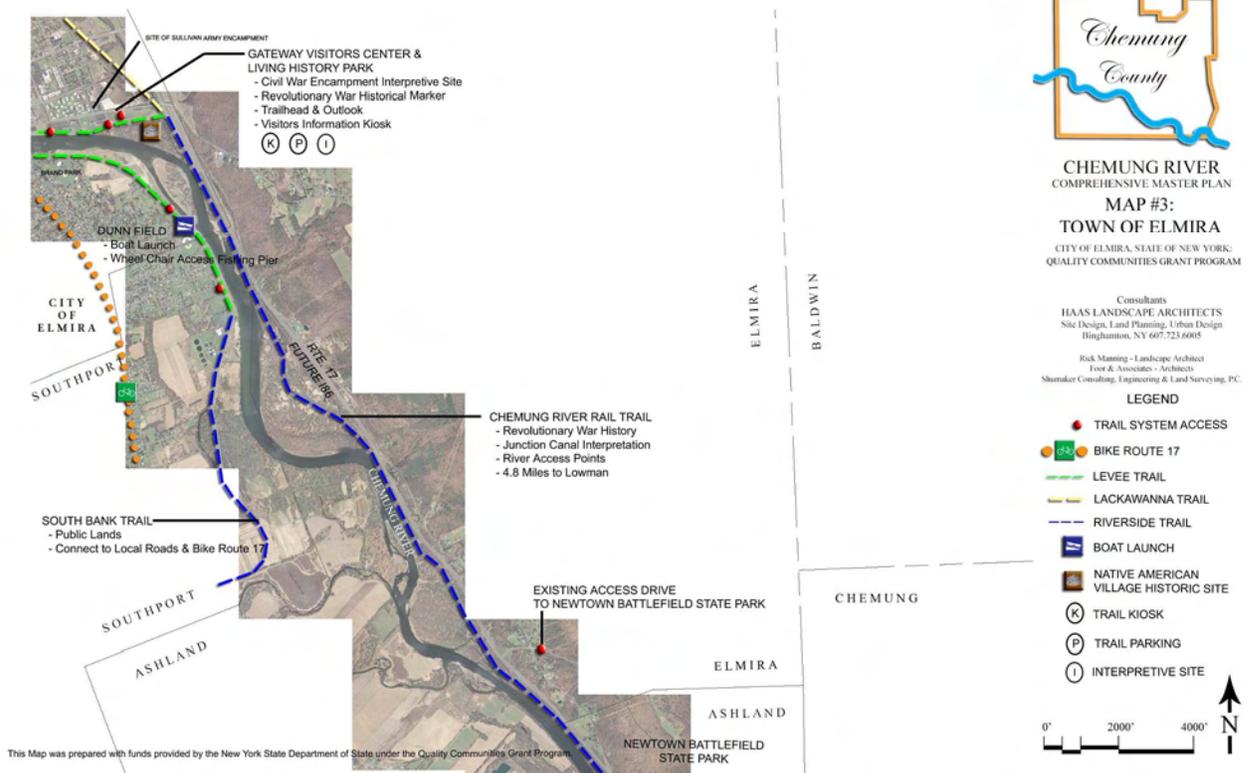
RIVER TRAIL: SLY STREET TO DUNN FIELD	Proposed 5000' multi-use trail following the southern bank of the Chemung River, linking Sly Street to Dunn Field. Dunn Field is the home of the Elmira Pioneers, Elmira's Collegiate League baseball team. Proposed Improvements: <ul style="list-style-type: none"> Fishing Access & Parking Area (Sewer Impvmnts.) 	Fed. TEP NYS- EPF	X	
DUNN FIELD BOAT LAUNCH IMPROVEMENTS	Dunn Field Boat Launch is a small boat launch facility with paved parking lot and a concrete launch ramp. Proposed Improvements: <ul style="list-style-type: none"> Boat Launch/Dock Improvements Wheel Chair Access Fishing Pier On-road Trail 		X	X
RIVER TRAIL: DUNN FIELD TO SOUTHPORT TOWN LINE	<ul style="list-style-type: none"> Provides access for Southport residents and a loop to Bike Rte 17 			X
Riverside Trails				
WALNUT ST. WEST	Proposed Improvements: <ul style="list-style-type: none"> Logical connection to Grove Street Launch and Civil War Camp 			X
WALNUT STREET TO S. MAIN ST. ACCESS	Proposed Improvements: <ul style="list-style-type: none"> River Street to Walnut St. Bridge access to/from Katy Leary Park Kiosk and Amenities 		LWRP Funds or NYS Parks EPF	
S. MAIN ST. TO DEC ACCESS RD. - NORTH	Proposed Improvements: <ul style="list-style-type: none"> Extension of Riverside (Portage) Trail 		LWRP or NYS Parks EPF	X
WALNUT STREET (WEST) TO DEC ACCESS RD. – NORTH SHORE	Proposed Improvements: <ul style="list-style-type: none"> Warning Buoys Trailhead – north bank Portage Trail along north floodwall Access trail from both bridges 			
WALNUT STREET TO CLEMENS CTR PKWY – SOUTH SHORE	Lower asphalt paved riverside trail connecting portage trail west and east to bridge access. Proposed Improvements: <ul style="list-style-type: none"> Access node with kiosk at Walnut St. Bridge 10' Asphalt Paved bike/Ped. Trail connecting to Dam Portage Trail Extension of Dam Portage Trail below Main St. Bridge to Pkwy. Paved trail split to ROW access below Viaduct and Clemens Pkwy. 		X LWRP Funds or NYS Parks EPF	
CHASE- HIBBARD DAM/PORTAGE TRAIL	800' Concrete portage trail with boat access and warning signs on Bridge. Feasibility report completed by Bergman Assoc's. highlighting pros & cons. And addition of Denil Fish Ladder on South end of Dam. Proposed Improvements: <ul style="list-style-type: none"> Construct Upper 800' – Lower 150' Alternatives Boat Storage/Parking Seasonal Comfort Facilities Non-Erodable Surface ADA Accessible 	X LWRP Funds or NYS Parks EPF		
DENIL FISHWAY	Proposed Improvements: <ul style="list-style-type: none"> 4' Denil Type Ladder (optional if whitewater bypass implemented) Trail Development Issues: <ul style="list-style-type: none"> May/June Shad Migration Agency Permits 		X	

Chemung River Trail – River Trails Master Plan

WHITE WATER BYPASS PARK	Proposed Improvements: <ul style="list-style-type: none"> • Navigable Channel • Spectating Area above • Incorporation To River Trail System • Flood Wall Stair Access 	Engin. Feas. Study	X LWRP Funds or NYS Parks EPF	
	<ul style="list-style-type: none"> • Non-navigable But Survivable Dam Retrofit 	X		
	<ul style="list-style-type: none"> • Portage Route North Side from Grove St. to Main Street 		X LWRP	
DAM REDUCTION HAZARD	Proposed Improvements: <ul style="list-style-type: none"> • Warning Buoys • Stone rip-rap at toe of dam • ACOE Permits 	Engin. Feas. Study	X	
HUDSON ST DEVELOPMENT PARCEL	City owns 6+ acre site slated for private development on South shore. Proposed Improvements: <ul style="list-style-type: none"> • Retain easement for future river access • Orient new construction toward river • Mixed-Use development (private “Green” complex) 		X	
CLEMENS PKWY TO SLY ST.	Proposed Improvements: <ul style="list-style-type: none"> • Levee trail with improved DEC access (paved) 		X	X
<u>Lackawanna Trail</u>				
LACKAWANNA TRAIL	<ul style="list-style-type: none"> • Lackawanna Trail (Completion expected 2008) • Federal (60%) / Local Share (40%) Proposed Improvements: <ul style="list-style-type: none"> • Interpretive Signage <ul style="list-style-type: none"> - Historical Sites - Local Wildlife • Small Stage Area for Local Concerts • Amenities <ul style="list-style-type: none"> - Glass-roofed (?) Shelters along Trail - Telescopes on platforms on bldgs to view river • Emergency Phones at Kiosks Trail Development Issues: <ul style="list-style-type: none"> • Nearby Businesses • Lighting – minimize light pollution 	X LWRP Funds or NYS Parks EPF		
Chemung River Rail Trail				
LACKAWANNA TRAIL TO ELMIRA/SOUTH-PORT TOWN LINE	17/186 corridor between highway and the Chemung River. Proposed Improvements: <ul style="list-style-type: none"> • Abandoned rail-trail corridor contiguous to Rte 17/1-86 • See Gateway Park (above) 		LWRP Funds or NYS Parks EPF X	X

6. Towns of Elmira - East and Southport – East (Map 3)

River access projects along the Chemung River in the Towns of Elmira and Southport, east of the City, focus on trail development that links the City of Elmira to surrounding landscapes, residential and villages. The major project, located north of the river corridor, is the conversion of an existing abandoned railroad corridor that runs parallel to Route 17/I86 to a multi-use trail. This project is threatened by the proposed highway widening related to I86 upgrades. South of the River a multi-use trail is proposed to link Dunn Field and City river trails to Southport residential neighborhoods located between the river and Route 427.



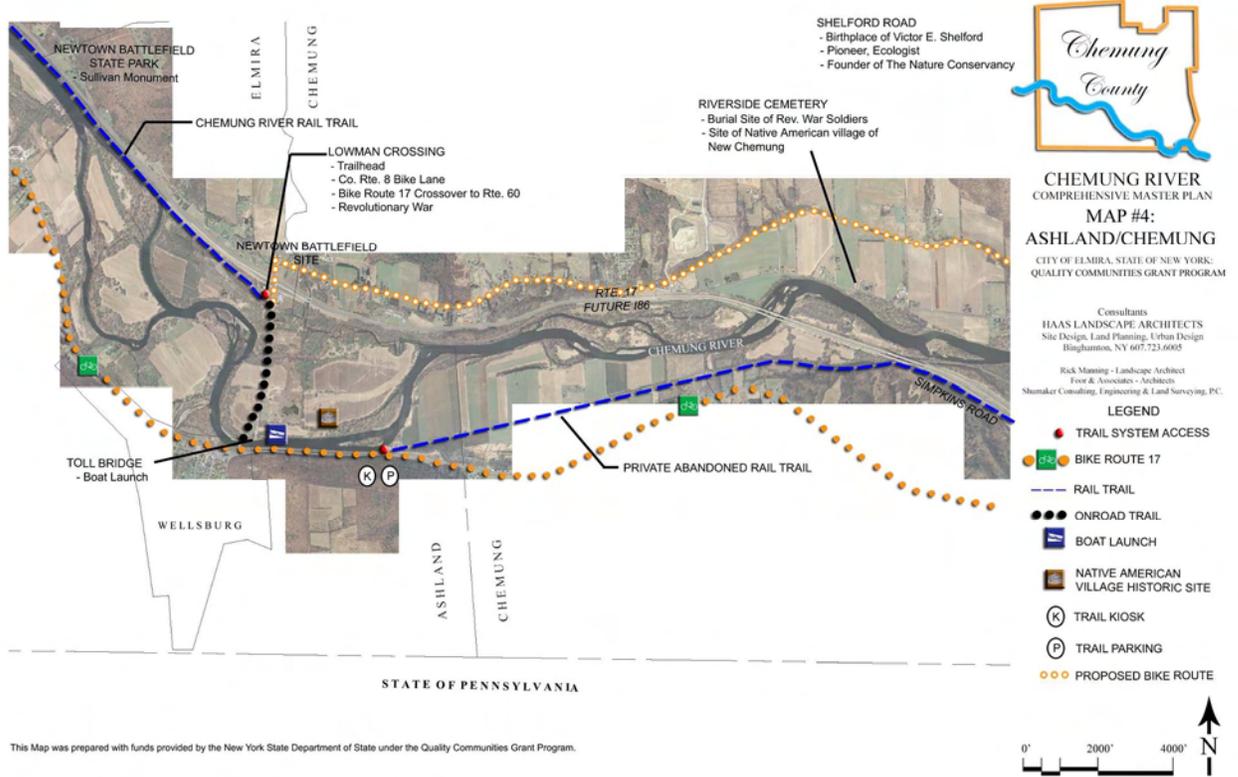
Map #3: Town of Elmira – East & Southport - East

**Project Description Table 3-5
Towns of Elmira-East and Southport-East (Map No. 3)**

<u>Town of Elmira – East</u>				
<u>Project Name</u>	<u>Project Description</u>	Short Term	Mid-Term	Long Term
CHEMUNG RIVER RAIL-TRAIL: CITY OF ELMIRA TO TOWN OF ASHLAND LINE	<p>Proposed multi-use trail on abandoned railroad corridor within Route 17/186 corridor between highway and the Chemung River. The four mile corridor is largely intact between Water Street in the City and the Lowman Crossing interchange. It is currently used by fisherman to access the north bank of the Chemung River. The corridor has excellent river views from various locations. This section of the trail, in the Town of Elmira, is just over two miles in length.</p> <p>Trail development issues:</p> <ul style="list-style-type: none"> • The conversion of NY Route 17 to Interstate 86, as currently designed, involves significant widening of the road median resulting in filling over and blocking major sections of this historic transportation corridor. If this project is to be considered a high-priority project, then City, Town and County governments must request that NYSDOT adjust the new highway design to minimize the impacts on this proposed non-motorized transportation way. • This corridor was a transportation corridor for Native Americans and was known as the 'forbidden trail' by colonial settlers who used it, at their peril, for accessing and settling this region. If developed as a multi-use trail, the corridor history should be interpreted at key locations along its length. 		X	
<u>Town of Southport – East</u>				
RIVER TRAIL ON SOUTH BANK: DUNN FIELD TO BR 17 AT ASHLAND TOWN LINE	<p>Proposed 2.25 mile multi-use trail that extends the City's South River Trail from Dunn Field to the southeast and the intersection of NY Bike Route 17 at the Southport/Ashland townline. The concept for this trail section was developed by the City of Elmira and submitted, unsuccessfully, for TEA-21 Enhancement Program funding in 2000.</p> <p>Trail development issues:</p> <ul style="list-style-type: none"> • This section of the trail will create access from Southport residential neighborhoods to Dunn Field, Brant Park and other destinations in Elmira's City Center. 		X	
NY BIKE ROUTE 17	<p>Bike Route 17 has striped shoulders and signs along Route 427 in this area. Upgrades to this bikeway should be incorporated as road resurfacing and reconstruction projects are designed and implemented.</p>		X	

7. Towns of Ashland/Chemung (Map 4)

The Towns of Ashland and Chemung span both sides of the Chemung River east of Elmira. There are a few excellent opportunities for enhancing public access to the river corridor for both landside users and for those interested in boating and fishing.



Map #4: Ashland/Chemung

Project Description Table 3-6

Towns of Ashland and Chemung (Map No. 4)

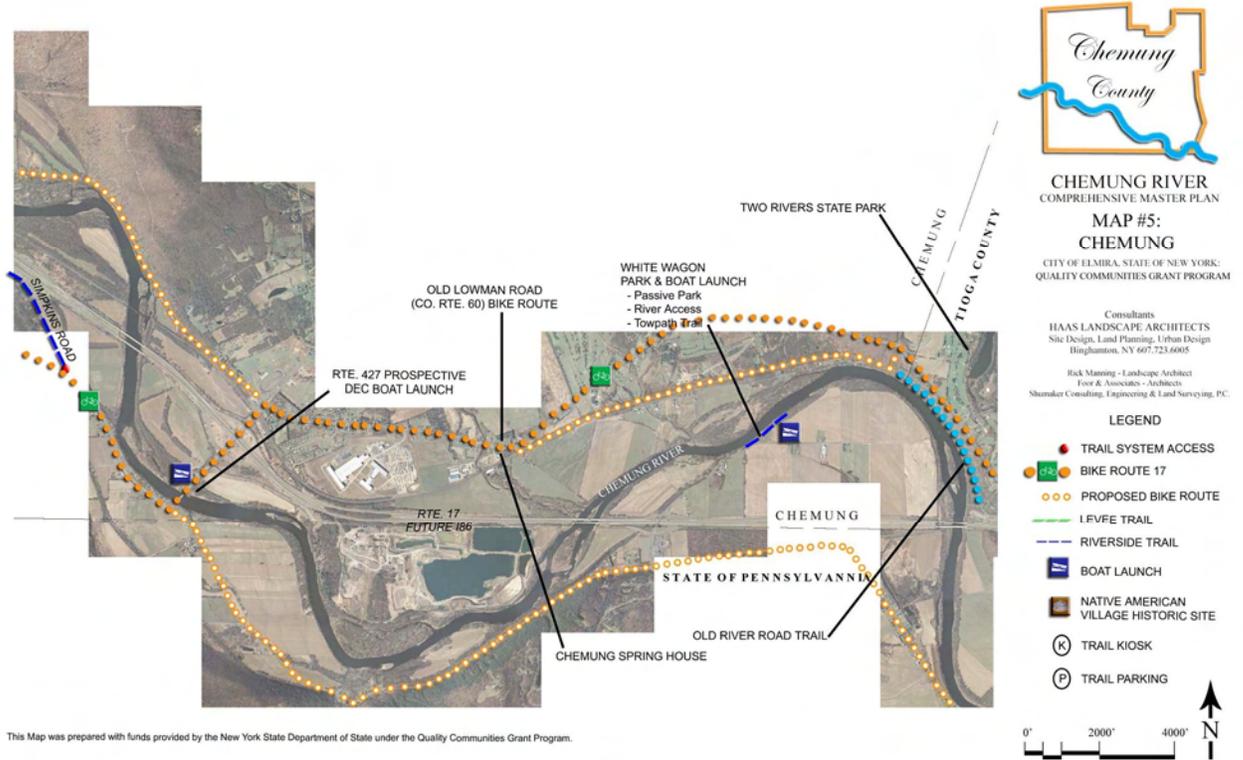
<u>Project Name</u>	<u>Project Description</u>	<u>Short Term</u>	<u>Mid-Term</u>	<u>Long Term</u>
<u>Town of Ashland</u>				
CHEMUNG RIVER RAIL-TRAIL: ASHLAND TOWNLINE TO LOWMANS CROSSING	<p>Proposed multi-use trail on abandoned railroad corridor within Route 17/186 corridor between highway and the Chemung River. The four mile corridor is largely intact between Water Street in the City of Elmira and Lowman's Crossing. The corridor is currently used by fisherman to access the north bank of the Chemung River and has great views of the river from various locations along its length. The Town section of the trail in the Town of Ashland, east of the City of Elmira, is just under two miles in length.</p> <p>Trail development issues:</p> <ul style="list-style-type: none"> The conversion of NY Route 17 to Interstate 86, as currently designed, involves widening of the highway corridor which will result in filling on top of much of this historic transportation corridor. The City, Town and County governments should closely monitor the progress of this design project and request, again, that NYSDOT design the highway upgrade to ensure that this historic and non-motorized transportation way can be preserved and developed. This corridor is an historic transportation trail for Native Americans and was known as the 'forbidden trail' by colonial settlers. If developed as a multi-use trail, interpretation of the site's important role in the Revolutionary War and in settlement of the area should be told. 		X	
LOWMAN'S CROSSING BIKEWAY	<p>Lowman's Crossing roadway links the Hamlet of Lowman on its north end to the Toll Bridge Boat Launch and the Village of Wellsburg on the south. It is approximately 1 mile in length and crosses both Route 17 and the Chemung River.</p> <p>Trail development issues:</p> <ul style="list-style-type: none"> The proposed Chemung River Rail Trail ends at Lowman's Crossing. Bike lanes and wayfinding signage should be developed to improve linkages to the historic sites in Lowman and to the proposed on-road bikeway on County Route 60 east towards the Town of Chemung and Village of Waverly. Bikeway linkages will also enhance access to the Town's Toll Bridge Boat Launch, the Village of Wellsburg, and to NY Bike Route 17. The Chemung River Rail Trail, Lowman's Crossing and BR 17 to Elmira can make an excellent ten mile +/- biking loop from Elmira. 		X	
TOLL BRIDGE BOAT LAUNCH	<p>The Toll Bridge Boat Launch, owned by DEC (ramp and parking) and the Town of Ashland (picnic pavilion, restrooms, etc.), is an excellent, well-maintained facility both for boaters and land-side users. It has a gravel parking lot, concrete launch ramp, scenic views of the river,</p>		X	

Chemung River Trail – River Trails Master Plan

	<p>large picnic pavilion, information kiosk, and restrooms. It is the only launch facility in Chemung County that allows primitive camping.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> • Provide a new Chemung River information kiosk and bike and boat racks. 			
NY BIKE ROUTE 17	<p>NY Bike Route 17 is located on Route 427 east of the City of Elmira. The route is well signed and generally has good road shoulders that provide adequate space for cycling by experienced recreational and touring cyclists.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> • As roadway improvements are planned and implemented, road designers should continue to enhance biking conditions through widening and improving road shoulders and other related upgrades. 			X
<u>Town of Chemung</u>				
ROUTE 60 BIKEWAY	<p>County Route 60 is a scenic two lane roadway that links the historic hamlet of Lowman to Waverly, north of the Chemung River in the Towns of Ashland and Chemung. The road is very scenic and has many historic sites and homes, making it an attractive destination for bicycle touring.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> • Add wayfinding and interpretive signs. • Road conditions should be enhanced as road improvements are made including striped, 5'- wide shoulders. 			X
EQUESTRIAN TRAIL ON ABANDONED RAIL CORRIDOR	<p>East of Wellsburg between the Chemung River and Route 427/Bike Route 17, an abandoned railroad line is existing in an area that is near some horse farms and stables. This may present an opportunity to develop an equestrian trail facility. The possible trail follows the existing railroad corridor then parallel Simpkins road until it intersects with Route 427 west of Exit 59 where 427 ends.</p> <p>Trail Development Issues:</p> <ul style="list-style-type: none"> • Verify ownership of abandoned railroad corridor. • Examine condition of rail corridor and study the feasibility of trail development. Are rails and railroad ties still in place or have they been removed? • Development of a equestrian trail may be able to be undertaken with little funding, if informal agreements can be negotiated with landowners and if the ties have already been removed. 			X
NY BIKE RTE 17	<p>NY Bike Route 17 is located on Route 427 on either side of the Village of Wellsburg. The route is well signed and generally has good road shoulders that provide adequate space for cycling by experienced recreational and touring cyclists.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> • As roadway improvements are planned and implemented, road designers should continue to enhance biking conditions through widening and improving road shoulders and other related upgrades. 			X

8. Town of Chemung – (Map 5)

The eastern section of the Town of Chemung has two sites that may be developed as boat launch facilities and rural roads that provide opportunities for cycling along or near the Chemung River.



Map #5: Chemung



The following “Priority Project” identified by the CCWAC can be found in the Appendix.

- White Wagon Boat Launch

Project Description Table 3-7

Town of Chemung (Map #5)

<u>Project Name</u>	<u>Project Description</u>	<u>Short Term</u>	<u>Mid-Term</u>	<u>Long Term</u>
<u>Town of Chemung</u>				
ROUTE 427 BOAT LAUNCH	<p>This site, located off of Route 427 at Exit 59 has been used as an informal launch area and water access site for many years. Development of a more formal boat launch has been discussed for many years, but plans for the White Wagon Launch site have been developed more quickly due to its location above the floodplain, ownership by town and its proximity to a proposed industrial park.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> Developing a boat launch in this area would require access road improvements, parking lot and launch ramp construction, and the development of other desired amenities. 			X
NY BIKE ROUTE 17	<p>NY Bike Route 17 is located on Route 427 in the Town of Chemung until 427 ends at the Route 17/186 Exit 59. East of exit 59, BR 17 is located on County Route 60 to Waverly. The route is well signed and generally has good road shoulders that provide adequate space for cycling by experienced recreational and touring cyclists.</p> <p>Trail development issues:</p> <ul style="list-style-type: none"> As roadway improvements are planned and implemented, road designers should continue enhancing biking conditions through widening and improving road shoulders, improved signage, etc. 			X
ROUTE 60 BIKEWAY	<p>County Route 60 is a scenic two lane roadway that links the historic hamlet of Lowman to Waverly, north of the Chemung River in the Towns of Ashland and Chemung. The road is very scenic and has many historic sites and homes, making it an attractive destination for bicycle touring. At Exit 59 Route 60 becomes Bike Rute 17. As the road approaches Waverly it intersects with the River Road which is a good alternative biking route to BR 17. The River Road Trail, a striped two way on road bike trail, begins one mile east of Waverly.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> Add wayfinding and interpretive signs. Road conditions should be enhanced for bicycling as road improvements are undertaken including the provision of 5'-wide bike lanes/road shoulders. 			X
WHITE WAGON BOAT LAUNCH AND PARK	<p>Proposed boat launch facility on south bank of Chemung River, near Exit 59A and off of White Wagon Road. Town currently has funding to construct boat launch ramp and a small gravel parking area. Plans are currently being considered to develop an industrial park across White Wagon Road from the proposed launch site.</p> <p>Proposed improvements:</p> <ul style="list-style-type: none"> As part of the boat launch site development process, additional site amenities should be considered included the development of a walking loop trail, picnic pavilion, bike and boat ramps, a Chemung Riverway Information Kiosk, and composting restrooms. 	X		

IV. IMPLEMENTATION STRATEGIES and COSTS

A. STRATEGIES

Various strategies and options to realize the Chemung River Trail Master Plan recommendations are offered in this report. The Waterfront Advisory Committee (WAC) will need to adopt some standard policies and recommendations provided within this Master Plan. A list of strategies are provided below for the WAC.

A Local Waterfront Revitalization Program (LWRP) has been cited as often a necessary document in order to justify recommendations for local planning actions to implement waterfront development. It also is another means to open up state funding potential for waterfront development. This Master Plan was prepared with a similar process as that required in an LWRP.

State or federal grant monies often provide the impetus for new development that might never be accomplished with local funding only. Usually requiring matching funds, these grants place more responsibility and ownership on the applicant, thus helping to assure the project's success. However, there are associated costs with public money of which the applicant often is not aware. These come in the form of more complicated administration of contracts and requirements for tighter specifications, bidding procedures, bonding and construction review services. When federal or state grant monies are involved in a project, the lines between contracted services, donated services, and in-kind services must be clearly defined. Many grant programs no longer allow the value of in-kind services provided by the municipality to be used toward the required match. To construct the trail projects identified in this study, grant monies will be necessary from state or federal sources. Municipal in-kind could come from Planning efforts, engineering, parks, or public works.

Alternately, in-kind services may be used to implement a range of smaller improvements. Precedent exists for various sports and civic groups in the local communities to donate skills, time, materials and equipment toward the construction and revitalization of similar recreational facilities. Local businesses may agree to donate materials, use of equipment, and labor to a community improvement. For example, local nurseries might be willing to donate trees or seed. Hauling, drainage, and grading may be handled by municipal forces. A service club might be approached about constructing an overlook or a kiosk. Benches could be donated by other businesses or clubs, all in a cooperative effort to create an attractive new amenity at a reduced cost.

In all phases, permits must be obtained, construction drawings and estimates will need to be prepared for the proposed improvements, whether or not the project is funded with public money. This report, and the Master Plan drawings, are not “construction documents” but rather a planning guide. Costs for the next level of design development and detailed construction drawings and specifications must be accounted for, as they are necessary to bring this or any other project from the Master Plan phase to actual construction.

The following strategies or options are offered for consideration depending on the level of funding that is approved and the support provided by the community.

1. Establish a strategy for furthering public support of the Chemung River Trail projects. Public outreach was necessary early in the process. It must continue with an organized and credible Waterfront Advisory Committee and local support.
2. Piggy-back on other development initiatives that abut or include the waterfront improvements to implement trail segments. Many recommendations identified in Chapter III could be supported with funds from other private, State or federal sources. An example would be rehabilitations to bridge structures crossing the Chemung River.
3. Implement a Local Waterfront Revitalization Program (LWRP). This NYS mandated program is essential to be considered in future waterfront development plans that could be funded with State grants. It also shows the local commitment to stewardship of our local waterfront resources.
4. Secure property survey and easements or other means of negotiated passage for private properties bordering on the Chemung River where the waterfront trail is proposed.
5. Assure in-kind services and/or budgeted costs for anticipated funding (match) is accurate and approved by the City Council/Town Boards.
6. Utilize in-kind services and donations of labor and materials to construct certain improvements and weigh the impact of these donations to the public funding match. Be sure to contact the grantor for verification of match eligibility.
7. Pursue technical assistance grants for specific projects, which can often be included as part of your match to larger funding sources. (ie; New York State Urban and Community Forestry Council Community Improvement Grants, Municipal Challenge Grants, CDBG, DOS, DEC, NYS-Parks EPF Grants, and Legislative Support. See previous submission for additional Funding Sources.)
8. Lobby for legislative support of current applications and/or improvements. Invite their attendance at civic events, 4th of July Celebration, River Fest etc. Be persistent!
9. Include in municipal (Parks and Public Works) budgets fixed annual commitments toward improvements and maintenance. Continue budgeting for capital improvements in subsequent years.
10. Create a Chemung County Waterfront Coordinator that would be supported by the City, County, and local Towns to continue the river trail efforts identified and initiated by the municipalities. The Waterfront Coordinator could be a full or part-time position and would be responsible for coordinating with other department staff and grant writers to seek funding for identified projects, solicit private development interest, organize activities and special events, create waterfront themed marketing and promotional materials and manage general planning efforts for all waterfront related projects. They would assist with meeting notices and keep minutes.

11. Chemung County in cooperation with Steuben County Planning is currently pursuing funding toward future extension of the Chemung River greenway and boat launch areas across county boundaries. Look into the possibility of including these trail linkages in any future plans. And perhaps consider expanding the Waterfront Advisory Committee to include Steuben County river communities.
12. Elmira College and City officials are exploring ways to improve the integration of the University and student life in the urban fabric of the City. Alternative methods of transportation must be provided to improve the physical connection of the campus and neighborhoods with downtown Elmira. Maintain bike routes through the downtown and consider connecting the Campus.
13. Complete another segment of the trail project and hold a grand opening celebration to recruit community support. Interest and enthusiasm from groups often wanes over time due to personnel changes, lack of visible progress, or the need to attend to other priorities.

B. ORGANIZING FOR SUCCESS

1. PRIME RESPONSIBILITY FOR PLAN IMPLEMENTATION:

In order to provide general oversight for administration of the Chemung River Trail Master Plan and technical assistance in the form of recommendations, the municipalities must create, by local law, a Waterfront Advisory Committee. This Committee will function as the municipalities' entity that is primarily responsible, in an advisory capacity, for implementing the policies, purposes and projects contained within Chemung County's Chemung River Trail Master Plan and the future Local Waterfront Revitalization Program (LWRP). The Committee will also function as the agency that makes recommendations for consistency of actions with the LWRP as prescribed by the new Waterfront Consistency Review Law.

First, the County must be convinced to support the County Waterfront Coordinator position. Town supervisors must also encourage the County to support local waterfront revitalization efforts, as it would be an economic boost to these riverine communities and the general public is very supportive. A proposal that has been suggested includes the County and river towns sharing the cost of the Coordinator position to manage riverfront projects within the County. The City of Elmira shall participate in a similar manner as the Townships but might approach their develop of the waterfront in partnerships with other for-profits and non-profits including but not limited to: Elmira Downtown Development, Southern Tier Economic Growth, and the Near Westside Neighborhood Association.

2. BUDGET CONSIDERATIONS:

The following Table 4-B, outlines the overall project costs if the recommendations were to be implemented as proposed. Unforeseen costs, such as additional archaeological studies, hydrologic studies, agency mandates, and easements are not included. Table 4-A lists the current Unit Costs of constructing various elements planned for the Chemung River Trail.

These figures formed the basis for estimating the trail segments. Many of these elements remain conceptual in nature and assumptions were made based on professional experience.

Table 4-A

Unit Costs of Construction

<i>Item</i>	<i>Unit</i>	<i>2008 Dollars</i>
<i>On-road bikeways</i>		
Stripe Bike Lanes	per linear ft	\$4
Widen for Bike Lanes – Urban Road Section (Includes Curb and Gutter)	per linear ft	\$210
Pave Gravel Shoulders -Rural Section	per linear ft	\$56
Construct Paved Shoulders – Rural Section	per linear ft	\$104
<i>Trails</i>		
12 ft. Asphalt	per linear ft	\$55
10 ft. Asphalt	per linear ft	\$45
10 ft. Stonedust	per linear ft	\$20
8. ft. Stonedust	per linear ft	\$16
8 ft. Woodchip	per linear ft	\$9
5 ft. Concrete Sidewalk – One Side Only	per linear ft	\$32
<i>Other Trail Construction Items</i>		
Trailhead – Minor: Kiosk, bench, small plaza, picnic bench, signage, etc.	each	\$17,000
Trailhead – Major: Auto Parking, trail access control, kiosk, bench, picnic pavilion, plaza, signage, etc.)	each	\$75,000
Trail Road Crossing-Minor: Not signalized, signs, crosswalk, access control, bollards.	each	\$10,000
Trail Road Crossing – Major: Traffic Signal, crosswalk, access control, bollards, signs.	each	\$30,000
Maj./Min.Kiosk incl. Signs	each	\$15,000
Interpretive Sign/Wayside	each	\$6,000
Composting Restroom	each	\$20,000
Bike/Boat Racks	each	\$750
Miscellaneous/Other	lump sum	varies
<i>Site Development</i>		
Trail Bridge: MAX. 100 LF	per linear ft	\$50,000
Concrete Boat Launch	each	\$30,500
Guiderail Boulders	each (1/2 T)	\$100
Picnic Pavilion	each/small	\$20,000
Site Amenities (bench, bike rack, trash bin)	1 ea. @ 500'	\$3,500
Gravel Parking (6" depth)	per car	\$400
Asphalt Parking (3" depth)	per car	\$1,100
Major Grading/Earthwork	lump sum	varies
Lighting/Bollard Style	each	\$980
Culvert (Small)	<18"	\$6,200
Culvert (Large)	>24"	\$15,500
Stair over Floodwall	each	\$38,000
Miscellaneous	lump sum	varies

Table 4-B outlines the overall project costs if the recommendations were to be implemented in their entirety. A more logical and reasonable approach will be to tackle items that relate to each other in terms of construction phasing and need. Projects are listed under the municipality where they are located. Priority projects are highlighted in yellow. The rows identify the major components. Worksheets, not provided here, were used to designate trail types, widths, and other features that were assumed within the trail segments – such as kiosks, parking, and interpretive signs.

**Table 4-B
TRAIL AND PROJECT DEVELOPMENT COSTS**

Town of Big Flats

Town of Big Flats River Trail Sections		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Bottcher's Landing Boat Launch	0	40,000	27,000	67,000	16,750	16,750	\$100,500
B	Bottcher's Landing to Minier's	357,500	56,000	65,500	479,000	119,750	119,750	\$718,500
C	Minier's Field Boat Launch	0	40,000	57,500	97,500	24,375	24,375	\$146,250
D	Minier's Field to Curren Road	786,500	114,000	149,000	1,049,500	262,375	262,375	\$1,574,250
E	Curren/Old State Road to Trolley Corridor	220,000	6,000	37,000	263,000	65,750	65,750	\$394,500
F	Trolley Corridor to Fitches Bridge Boat Lnch	632,500	96,000	77,000	805,500	201,375	201,375	\$1,208,250
G	Fitches Bridge Boat Launch Improvements	0	40,000	64,500	104,500	26,125	26,125	\$156,750
Total Project Cost								\$4,299,000

Big Flats Town Center Trails, Sidewalks & On-Road Bikeways		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Bottcher's to Comm Park Trail – Rt. 352	292,500	46,000	45,500	384,000	96,000	96,000	\$576,000
B	Community Park Trail Extensions	189,000	21,000	28,000	238,000	59,500	59,500	\$357,000
C	Community Park to Minier's Launch Trail	103,500	22,000	14,000	139,500	34,875	34,875	\$209,250
D	Rail Trail Extension – Winters to Olcott	95,000	24,000	85,000	204,000	51,000	51,000	\$306,000
E	Hammond Road Sidewalk and Bikeway	1,495,000	0	0	1,495,000	373,750	373,750	\$2,242,500
F	Winters Road On-Road Bikeway Upgrade	1,242,000	0	0	1,242,000	310,500	310,500	\$1,863,000
G	Main Street Sidewalk (2 sides) and Bikeway	540,000	0	0	540,000	135,000	135,000	\$810,000
H	Canal Street Sidewalk Upgrade	80,000	0	0	80,000	20,000	20,000	\$120,000
I	Maple Street Sidewalk and Bikeway	180,000	0	0	180,000	45,000	45,000	\$270,000
J	Olcott Road Sidewalk and Bikeway	434,000	0	0	434,000	108,500	108,500	\$651,000
Total Project Cost								\$7,404,750

Town of Big Flats Alternate River Trail Routes		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Alt. River Trail from 3000' SE of Minier's to Harris Hill Road along Curren Road.	283,500	66,000	92,000	441,500	110,375	110,375	\$662,250
B		0	0	0	0	0	0	\$0
Total Project Cost								\$662,250

Town of Elmira - West

Town of Elmira - West Main Riverside Trail on Northbank		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
B	Town Line to Pirozzolo Pk	319,000	42,000	49,000	410,000	102,500	102,500	\$615,000
C	Pirozzolo Pk Improvements	0	20,000	37,500	57,500	14,375	14,375	\$86,250
D	Levee Trail - Pirozzolo Pk to City Line	467,500	48,000	52,500	568,000	142,000	142,000	\$852,000
E		0	0	0	0	0	0	\$0
F		0	0	0	0	0	0	\$0

Total Project Cost	\$1,553,250
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Town of Elmira - West Alternate Trail Routes		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Pirozzolo Pk to City Line along River (Blue)	352,000	36,000	45,500	433,500	108,375	108,375	\$650,250
B		0	0	0	0	0	0	\$0

Total Project Cost	\$650,250
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Town of Southport - West

Southport - West Rorick's Glen		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Rorick's Glen Historic Site	0	7500	0	0	1875	1875	\$11,250
B		0	0	0	0	0	0	\$0

Total Project Cost	\$11,250
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City of Elmira

City of Elmira Levee Trail - South Shore		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Southport Town Line to Fulton St.	72,000	88,000	28,000	188,000	47,000	47,000	\$282,000
B	Levee Trail: Jim Nelson Park	9,600	53,000	7,000	69,600	17,400	17,400	\$104,400
C	Katy Leary Park S. Levee Access @ River St.	5,400	83,750	77,180	166,330	41,583	41,583	\$249,495
D	Main Street Bridge	0	12,000	14,000	26,000	6,500	6,500	\$39,000
E	Off-Road Trail: Main Street to Clemens Ctr Pkwy	13,120	33,000	21,660	67,780	16,945	16,945	\$101,670
F	Clemens Ctr Pkwy to Trailhead @ DEC Access Ramp (Madison Ave. Bridge)	18,960	23,000	8,960	50,920	12,730	12,730	\$76,380

Chemung River Trail – Implementation Strategies and Costs

G	Boardwalk Trail: Trailhead to Lake St	15,750	81,000	14,840	111,590	27,898	27,898	\$167,385
H	Lake St to Sly Street	28,000	31,000	16,800	75,800	18,950	18,950	\$113,700
I	Sly St to Brand Park	67,500	113,750	54,240	235,490	58,873	58,873	\$353,235
J	Brand Park to Dunn Field Launch	70,000	28,000	30,200	128,200	32,050	32,050	\$192,300
K	On-Road Trail: Dunn Field	33,600	6,000	7,000	46,600	11,650	11,650	\$69,900
L	Dunn Field to Southport Town Line	12,000	0	15,500	27,500	6,875	6,875	\$41,250
M	Dunn Field Launch	0	76,500	53,200	129,700	32,425	32,425	\$194,550

Total Project Cost	\$1,985,265
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City of Elmira Levee Trail - North Shore		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Town Line to Grove St Launch	148,500	18,000	49,400	215,900	53,975	53,975	\$323,850
B	Civil War Prison Camp	1,800	17,000	4,480	23,280	5,820	5,820	\$34,920
C	Water Board Bldg	0	59,250	55,480	114,730	28,683	28,683	\$172,095
D	Main Street Bridge - North Stair Access	0	0	0	0	0	0	\$0
E	Grove Street Launch	0	109,250	69,940	179,190	44,798	44,798	\$268,785
F	Mark Twain Riverfront Park	0	0	0	0	0	0	\$0
G	Madison Ave to Huck Finn Park	88,200	59,000	49,000	196,200	49,050	49,050	\$294,300
H	Huck Finn Park	36,000	6,750	13,980	56,730	14,183	14,183	\$85,095
I	Off-Road Trail: Sullivan St	64,800	6,000	7,000	77,800	19,450	19,450	\$116,700
J	Off-Road Trail: Judson St.	54,000	6,000	7,000	67,000	16,750	16,750	\$100,500
K	Huck Finn Park to Lackawanna Trail	58,500	16,000	21,400	95,900	23,975	23,975	\$143,850
L	East Water Street Park (see Gateway Park)	0	0	0	0	0	0	\$0

Total Project Cost	\$1,540,095
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City of Elmira Riverside Trail		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Grove St. to S. Main St. Access - North shore	170,500	72,500	148,200	391,200	97,800	97,800	\$586,800
B	S. Main to DEC Access Rd. - North shore	181,500	18,000	32,000	231,500	57,875	57,875	\$347,250
		0	0	0	0	0	0	\$0
C	Walnut St to Clemens Pkwy - South shore	137,500	18,000	27,000	182,500	45,625	45,625	\$273,750
D	Chase Hibbard Dam/Portage Trail	25,600	12,000	16,500	54,100	13,525	13,525	\$81,150
E	Clemens Pkwy. To Madison Avenue	82,500	12,000	16,500	111,000	27,750	27,750	\$166,500

Total Project Cost	\$1,455,450
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City of Elmira Whitewater Bypass, Fish Ladder & Portage		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	White Water Bypass Park	0	0	1,200,000	1,200,000	300,000	300,000	\$1,800,000
B	Denil Fishway 2	0	0	330,000	330,000	82,500	82,500	\$495,000
C	Dam Hazard Reduction	0	0	4,000,000	4,000,000	1,000,000	1,000,000	\$6,000,000
D								

Total Project Cost	\$8,295,000
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Chemung River Trail – Implementation Strategies and Costs

City of Elmira Riverfront Park & Water St. Park	Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A Mark Twain Riverfront Park	9,100	61,500	289,980	360,580	90,145	90,145	\$540,870

Total Project Cost	\$540,870
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City of Elmira Gateway Living History Park	Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A Gateway Visitor Center w/Parking	0	75,000	310,800	385,800	96,450	96,450	\$578,700
B Site Improvements & Picnic	0	1,500	89,660	91,160	22,790	22,790	\$136,740
C Trail Access to Levee	13,800	10,000	0	23,800	5,950	5,950	\$35,700
D Lookout	0	41,750	19,880	61,630	15,408	15,408	\$92,445
E On-Road Trail: Water Street East to Lackawanna Trail	49,500	0	0	49,500	12,375	12,375	\$74,250
F Additional Interpretive Signage	0	72,000	0	72,000	18,000	18,000	\$108,000

Total Project Cost	\$1,025,835
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City of Elmira Chemung River Rail Trail	Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A Lackawanna Trail to Elmira/Southport Town Line	209,000	24,000	237,400	470,400	117,600	117,600	\$705,600

Total Project Cost	\$705,600
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Town of Elmira - East

Town of Elmira Rail Trail - East Chemung River Rail Trail	Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A Elmira Townline to Ashland Townline	979,000	203,000	346,000	1,528,000	382,000	382,000	\$2,292,000

Total Project Cost	\$2,292,000
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Town of Southport - East

Southport - East River & Levee Trail & BR 17	Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A Dunn Field/City Line to BR 17/Ashland Town line	660,000	119,000	84,000	863,000	215,750	215,750	\$1,294,500
B Bike Route 17 Southport/Ashland line to City line (Improvements by Others)	0	0	0	0	0	0	\$0

Total Project Cost	\$1,294,500
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Town of Ashland

Ashland Rail Trail & On-Road Bikeway Improvements		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Rail Trail – Ashland Townline to Lowman	511,500	71,000	163,000	745,500	186,375	186,375	\$1,118,250
B	Lowman Crossing Bikeway – Rt 60 to River	40,000	42,000	28,000	110,000	27,500	27,500	\$165,000
	BR 17 – Lowman to Sport/Ashland Line (BR 17 Improvements by Others)	0	0	0	0	0	0	\$0

Total Project Cost	\$1,283,250
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Town of Chemung

Chemung Proposed Bike Routes		Trail Const. Subtotal	Trail Items Subtotal	Site Devel. Subtotal	Trail Cost Subtotal	25% Contingency	25% Design & Constr. Admin	Total Section Cost
A	Route 60 Bikeway – Lowman to Old River Road Trail in Waverly	198,000	60,000	0	258,000	64,500	64,500	\$387,000
B	BR 17-Wellsburg to Ex 59 at NY/PA State Line (BR 17 Improvements By Others)	0	0	0	0	0	0	\$0
C	Bikeway Improvements along 427 between 427/BR 17 and Rt 60 at Ex. 59	16,000	0	0	16,000	4,000	4,000	\$24,000
D	White Wagon Park and Boat Launch	18,400	45,000	52,300	115,700	28,925	28,925	\$173,550
E	Tow Path Trail (See Unit Costs-Depends on LF)	0	0	0	0	0	0	\$0

Total Project Cost	\$584,550
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These figures are conceptual for planning purposes only. They also are based on current (2008) figures for Federal or State funded transportation projects. As time evolves, these figures will need to be updated for inflation and new information available in the development of the segments.

Chapter III illustrates a Development Program which outlines the time frame (phases) and general tasks needed to carry the Chemung River Trail Master Plan projects through completion of its many segments. This includes a breakdown of the implementation steps, costs, and benefits. The Chemung County Waterfront Advisory Committee has been solicited for feedback on the prioritization of these elements. Priority projects are highlighted in the Table above.

Major tasks are identified for each trail segment described in Chapter III. Many construction related projects must be facilitated through professional services contracts depending on the funding sources. The following chart is a guide to assist the Chemung County Waterfront Advisory Committee with planning, funding, and implementing the Master Plan. Suggested phasing of these improvements is noted for consideration. Phases are dependent on funding and their relationship to other development initiatives within the municipalities.

C. REQUIRED PROFESSIONAL DESIGN & CONSTRUCTION SERVICES

A Master Plan study provides a base from which decisions can be made, priorities established, and projects defined. In relation to the design process the next phase of professional services to be considered is Design Development. In this phase, construction plans are prepared for implementation of the design elements. Using the Concept Plans as a guide, updated cost estimates can be prepared for the specific scope of work to be considered and implemented. Often budgets help define the scope of work. These estimates should be further refined as detailed plans, specifications, and trade costs are obtained.

Once the Design Development Phase is complete services shift to the preparation of Contract Documents and the Bidding process. Assistance and coordination between the consultant and the Client is critical to establish general terms and conditions in the agreement between the contractor and the Client. The construction drawings, specifications and bid forms constitute the contract documents, and are packaged together and made available to the qualified contractors. The bidding process is then initiated. A reasonable amount of time is given to the contractor to submit bids and other required forms. Depending on the scope of the work, three to four weeks are usually adequate. After the bids are received and reviewed, a selection of a preferred contractor can be made. The Client can either negotiate with this contractor to bring the bid in line with the project budget or award the contract. The contractor generally is given a few weeks to provide a work schedule, bonds, insurance certificates, and begin ordering materials. Mobilization may take up to a few weeks depending on the season and the contractor's current schedule.

Additional services, which will be necessary to implement the improvements identified in the recommendations include: the Survey and/or definition of Easements, Stormwater Management and Erosion Control Plans, Archeological studies or Stage 2 digs, Environmental screenings and assessments, Hydrological studies if water edge is impacted, Nationwide Permits through the Army Corps of Engineers, and Permits through the NYS Dept. of Environmental Conservation.

It is assumed that the granting agency(s) will provide funding for professional services since they require these services. An estimate for these services is provided in Table 4-B. This is based on an estimated percentage of construction costs and should be updated based on the funding, requirements, and components anticipated.

D. LOCAL LAWS and ACTIONS

1. EXISTING LOCAL LAWS AND REGULATIONS

One of the primary means of implementing the Chemung River Trail Master Plan is through local laws and regulations that concern, or are related to, land use. The following local laws and regulations of Chemung County are relevant to the implementation of this Master Plan

study and a Local Waterfront Revitalization Program.

a. City Zoning Ordinance

The Zoning Ordinance of the City of Elmira, adopted in 1998, was prepared to provide for the orderly growth of the City, to promote public health, safety and the general welfare of its citizens, to prevent the overcrowding of land, to minimize conflicts among land uses and buildings and to safeguard the heritage of the City of Elmira.

The Zoning Ordinance is an important element in the implementation of the trails since all development must conform with the regulations specified for the district in which the development is proposed. No actions or LWRP policies can be undertaken without meeting the requirements of the zoning ordinance, therefore modifications to the zoning ordinance shall be required if the policies and recommendations are to be fully implemented.

b. Historic Preservation Ordinance

The City of Elmira Historic Preservation Ordinance is a section (440) of the Zoning Ordinance. It is going through modifications as of this writing. Some general criteria for consideration follows:

1. Promote the educational, cultural, economic and general welfare of the public through the protection, enhancement and perpetuation of landmarks and districts of historic and cultural significance;
2. Safeguard the City's historic, aesthetic and cultural heritage by preserving landmarks and districts of historical and cultural significance;
3. Stabilize and improve property values;
4. Foster civic pride in the legacy of beauty and achievements of the past;
5. Protect and enhance the City's attractions to tourists and visitors and provide a stimulus to new business;
6. Strengthen the economy of the City; and
7. Promote the use of landmarks and districts of historic and cultural significance as sites for the education, pleasure and welfare of the people of the City of Elmira.

The law establishes a Preservation Commission and specifies certain types of member qualifications that are required. The Ordinance outlines the powers of the Commission and all pertinent procedures and regulations required as part of those powers.

c. Floodplain Management (Section)

This Section of the City's Zoning Ordinance states that "no permits for use within the floodplain management area, as delineated on the flood insurance rate map dated June 1, 1977, for the City of Elmira shall be permitted without compliance with the floodplain management regulations as set forth in Local Law...". Projects within the floodplain management area are reviewed to ensure that hazards from flooding are minimized through appropriate standards concerning construction techniques and materials, siting and protection and maintenance of drainage areas.

d. Performance Standards (Section)

The purpose of these performance standards is to regulate the potentially objectionable aspects of land uses or activities in the City of Elmira by the application of specific standards whenever possible. This involves standards for allowable conditions with respect to various environmental parameters, including noise, vibration, atmospheric pollutants (smoke, dust, etc.), radiation, electromagnetic interference, humidity and heat and light.

e. State Environmental Quality Review Act

The DEC Division of Regulatory Affairs manages the State Environmental Quality Review Act (SEQRA). SEQRA is a law that establishes a process that requires the consideration of environmental factors early in the planning stages of actions that are directly undertaken, funded or approved by local, regional and state agencies. The Municipality or Planning Agency considers all applicable requirements under SEQRA during review of all qualifying projects. Federally funded projects must also go through the NEPA screening process.

2. AMENDMENTS TO EXISTING LOCAL LAWS AND REGULATIONS

The City of Elmira and the Towns of Big Flats, Elmira, Southport, Ashland and Chemung recognize that waterfront and downtown renewal and revitalization is one of the most effective means of stabilizing and rejuvenating residential and commercial districts within the study area, and throughout the municipalities. Municipal efforts will focus on promoting the waterfront character of the project area, encouraging additional water-dependent and water-enhanced uses and promoting additional commercial and recreational activities that have historically made waterfront communities appealing as commercial and residential areas for residents, as well as visitors.

The previous Section outlined local laws and regulations of the City to determine how well they implement the policies and proposals of the Chemung River Master Plan and future Local Waterfront Revitalization Program. If an LWRP is prepared the County will need to address additional policies and local laws relevant to the Towns.

1. Initial review of proposed actions in a manner compatible with requirements of the State Environmental Quality Review Act (SEQRA) and Title 6, Part 617 NYCRR;
2. Advisement and assistance to applicants (if involved) and/or the boards, the departments, offices, officers or other bodies of the City involved regarding forms, procedures, etc.; and
3. LWRP consistency and SEQRA review through advisement from a newly created Waterfront Advisory Committee and the local lead agency, respectively.

Adopt a New Local Law to Establish the Chemung Waterfront Advisory Committee

In order to provide general oversight for administration of the Chemung County’s River Master Plan and technical assistance in the form of advice, the County must create, by local law, a Waterfront Advisory Committee. Such Committee will function as the County entity that is primarily responsible, in an advisory capacity, for implementing the policies, purposes and projects contained within the County’s River Master Plan. The Committee will also function as the County agency that makes recommendations for consistency of actions with the Plan as prescribed by the Waterfront Consistency Review Law.

3. OTHER REQUIRED PUBLIC AND PRIVATE ACTIONS

a. Secure Necessary Waterfront Easements

A property survey and easements or other means of negotiated passage will need to be secured for private properties bordering on the Chemung River where the waterfront trail is proposed.

b. Private Investment in Public Amenities

The implementation of certain components of the proposed waterfront redevelopment projects will require significant private investment. This includes the construction and maintenance of commercial facilities, residential structures, rental facilities and certain other amenities. The municipalities and other involved public agencies should seek to maximize the contribution of private funds toward the development of public amenities, such as portions of waterfront trails, internal roadways, park improvements, parking facilities and public restrooms.

c. Economic Development Strategy

It is recommended that the urban municipalities undertake an economic development feasibility study to uncover the realistic redevelopment potentials and future uses within the Central Business District and at appropriate locations along the waterfront. The economic development strategy would determine what would be the highest and best uses for the lands within the study area, based on local supply and demand and market needs. Currently, the City of Elmira has an updated Comprehensive Plan that addresses the importance of the waterfront to the viability of the downtown. Based on new findings, this Comprehensive Plan should be updated or this Master Plan appended to the Comprehensive Plan.

d. Continue Trail Development in Accordance with Regional Greenway Study

The County should continue to invest in the development of a contiguous trail system through the County that would enhance public use along the water and improve connections between different neighborhood areas within the County. Trail locations have been identified in the Master Plan and the document should be consulted with respect to future trail development and feasibility as determined by this study. Further connections should be considered beyond the limits of Chemung County, to further the attraction.

4. ADMINISTRATIVE ACTIONS NECESSARY FOR IMPLEMENTATION

The following section summarizes additional administrative actions that should be undertaken in order to successfully implement the Chemung River Master Plan and/or new trail sections:

a. Obtain Services of Local Grant Writer(s)

The River Communities could retain the services of a part-time grant writer to assist them in the research and writing of grant applications for funding opportunities to implement future waterfront development efforts. Or they could use the services of the Waterfront Coordinator if that individual has these qualifications. In some joint applications, the County or City could support the application with their own in-house expertise.

b. Designate a “Waterfront Coordinator” to Oversee Waterfront Related Activities

The River Communities should create a new position within the Chemung County Planning Department, Elmira Chemung Transportation Council (MPO), or other appropriate agency that focuses solely on planning as it relates to waterfront programming and development. The Waterfront Coordinator could be a full or part-time position and would be responsible for coordinating with other department staff and grant writers to seek funding for identified projects, solicit private development interest, organize activities and special events, create waterfront themed marketing and promotional materials and manage general planning efforts for all waterfront related projects. They also would be responsible for the Advisory Committee meeting agendas and minutes.

c. Develop Partnerships with Local Schools, Health Department, Universities and Colleges

Municipalities should pursue relationships with the local school district and area colleges and universities in order to fully address the needs and concerns of the various educational institutions with respect to future waterfront development efforts. Working in conjunction with these institutions, the municipalities should strive to develop waterfront facilities and amenities that promote educational and health related opportunities, with the River and riverbanks acting as a field laboratory for scientific and natural studies of the living environment. The County Health Departments across New York State have mandated new programs that relate to healthy living and life styles. They will be supportive of trails and the use of walking as a means to improved quality of life.

d. Determine Maintenance Schedule and Responsibilities for Waterfront

In order to sustain the character of the waterfront as a clean, safe and welcoming attraction within the municipalities, a maintenance schedule, including responsibilities, is an important issue for the municipalities to address. The municipalities should develop a maintenance schedule that identifies what municipal department, or other local organization holds responsibility for maintaining specific waterfront facilities and amenities and how often the designated maintenance is required. The maintenance requirements should then be incorporated into the municipal budget to ensure that they are consistently and adequately upheld. When new, private developments are considered for any location within the study

area, they should be required to submit their own maintenance schedule, outlining the frequency and extent of their actions to satisfactorily maintain the facility and/or lands that are under their ownership.

5. LOCAL MANAGEMENT STRUCTURE AND PROCEDURES

It is the intention of the municipalities that the revitalization of the waterfront takes place in a coordinated and comprehensive manner that ensures a proper balance between the protection of natural resources and the need for economic development and revitalization.

6. CONSULTATION WITH FEDERAL, STATE AND LOCAL AGENCIES

On-going consultation with various government entities, local agencies, stakeholders and private individuals was an integral part of preparing the Chemung River Master Plan for the City of Elmira and the Chemung County Waterfront Advisory Committee. Throughout the planning process, local and state government agencies were contacted for the purposes of obtaining necessary information and coordinating actions.

The agencies and groups listed below provided essential background information and data pertinent to the preparation of the Master Plan.

a. Federal Agencies

Army Corps of Engineers (ACOE)
Department of the Housing and Urban Development
National Park Service (NPS)

b. State Agencies

Department of Environmental Conservation (DEC)
Department of State (DOS)
Department of Transportation (DOT)
Office of Parks, Recreation and Historic Preservation

c. Local Agencies, Groups and Organizations

City of Elmira
 Department of Community Development
 Department of Public Services
 City Manager and Mayor's Office
 Fire Department
Chemung County Planning Department
Chemung County Soil and Water
Elmira Chemung Transportation Council (MPO)

7. CONSULTATION WITH LOCAL OFFICIALS

The Chemung County Waterfront Advisory Committee was made up of representatives from various City, Town, and County agencies and organizations, as well as local stakeholders from the business community.

The Chemung County Waterfront Advisory Committee consisted of representatives from the following municipalities, agencies and organizations:

City of Elmira
Town of Chemung
Town of Southport
Town of Ashland
Town of Elmira
Town of Big Flats
Southern Tier Economic Growth
Elmira-Chemung Transportation Council
Cornell Cooperative Extension
Chemung Basin River Trail Partnership
Chemung County
Chemung County Planning Department
Department of Environmental Conservation (DEC)

8. PUBLIC OUTREACH

In order to ensure the needs and desires of the community were reflected in the Chemung River Master Plan, a public outreach program was undertaken which provided opportunities for members of the community to discuss their ideas and learn more about the Master Plan process. Included in the public outreach program were five (5) Waterfront Advisory Committee meetings and two (2) public meetings. Minutes and correspondence from these sessions are found in the Appendices.

E. FUNDING SOURCES

This section offers a partial list of potential funding sources for recreation and trail development. The programs are subject to change and sources must be contacted directly to keep abreast of changing program aims and eligibility standards. Many funding sources have websites that offer up-to-date information. One enormously useful website is the Catalog of Domestic Federal Assistance, at aspe.os.dhhs.gov/cfda, which lists all the domestic assistance programs offered by all Federal agencies. Listings are indexed by topic, by agency, by eligible group, and by program name. The Federal Commons Web site allows users to search the General Services Administration catalog of federal grant programs.

<http://www.cfda.gov> or
<http://www.lgean.org/html/whatsnew.cfm?id=160>

In the past, the Land & Water Conservation Fund provided Federal funds to support open space and recreation projects through a state-run matching grants program. Since 1995, no Federal monies have been allocated to the program. However, efforts to revive the Fund resulted in a restored Land & Water Conservation Fund program under the Federal Lands Legacy Initiative. Congress passed and the President signed into Public Law 108-108, which appropriated \$91,360,000 for FY 2004 LWCF stateside assistance. In New York State, these federal funds are being distributed by the Office of Parks, Recreation and Historic Preservation. These funds are being distributed through the same Parks Development funding program that distributes Clean Water/Clean Air Bond Act and Environmental Protection Funds. Grant applications currently are not available.

The Chesapeake Bay Small Watershed Grants Program - This program is funded by the National Fish and Wildlife Foundation (NFWF). This program provides grants to organizations and local governments working on a local level to protect and improve watersheds in the Chesapeake Bay basin, while building citizen-based resource stewardship. The purpose of the grants programs is to support protection and restoration actions that contribute to restoring healthy waters, habitat and living resources of the Chesapeake Bay ecosystem. The Small Watershed Grants program has been designed to encourage the development and sharing of innovative ideas among the many organizations wishing to be involved in watershed protection activities. The application form are now available on the NFWF website: <http://www.nfwf.org/chesapeake/index.htm> Grants range from \$10,000 to \$200,000. Deadline for application: February 29, 2008.

Other grant opportunities have been compiled and submitted to the WAC at an earlier date.

V. TRAIL DESIGN STANDARDS

A. Introduction

A regional trail network must be planned as part of the region's multi-modal transportation system than can include on-road bikeways, waterway trails, the regional road and parking infrastructure, and the regional transit system. In addition it should be tightly woven into the region's park and recreation system. This chapter provides an overview of design standards to help plan a highly functional and cohesive trail network. Network planners and designers should refer directly to the following standards and references for the most comprehensive and up-to-date information on designing trails and associated facilities:

- New York State Highway Design Manual: Chapter 17 - Bicycle Facility Design; Chapter 18 – Pedestrian Facility Design.
<https://www.nysdot.gov/portal/page/portal/divisions/engineering/design/dqab/hdm>
- AASHTO Guide for the Planning, Design and Operation of Bicycle Facilities. (American Association of State and Highway Transportation Officials.)
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities. (American Association of State and Highway Transportation Officials)
- Designing Sidewalks and Trails for Access: Part 1: Review of Existing Guidelines and Practices; and Part 2: Best Practices Design Guide. These are available online from the Federal Highway Administration at <http://www.fhwa.dot.gov/environment/sidewalks/index.htm> and <http://www.fhwa.dot.gov/environment/sidewalk2/index.htm>

B. Trail Surfaces and Design Standards

1. TRAIL WIDTH AND REQUIRED CLEARANCES

Multi-use trails generally range in width from 10' in rural settings to 12' or more in urban or suburban settings. In some instances, where space is limited and traffic volumes very low, trails may narrow to 8' in width. In urban or high volume situations, trail width can be increased to 14 or even 16', however we do not anticipate the need to go beyond a 12' width along the Chemung River corridor. A 3' horizontal clearance is recommended between the trail edge and any vertical obstructions. A 10' minimum vertical clearance is suggested between the trail surface and any objects or wires that overhang the trail.

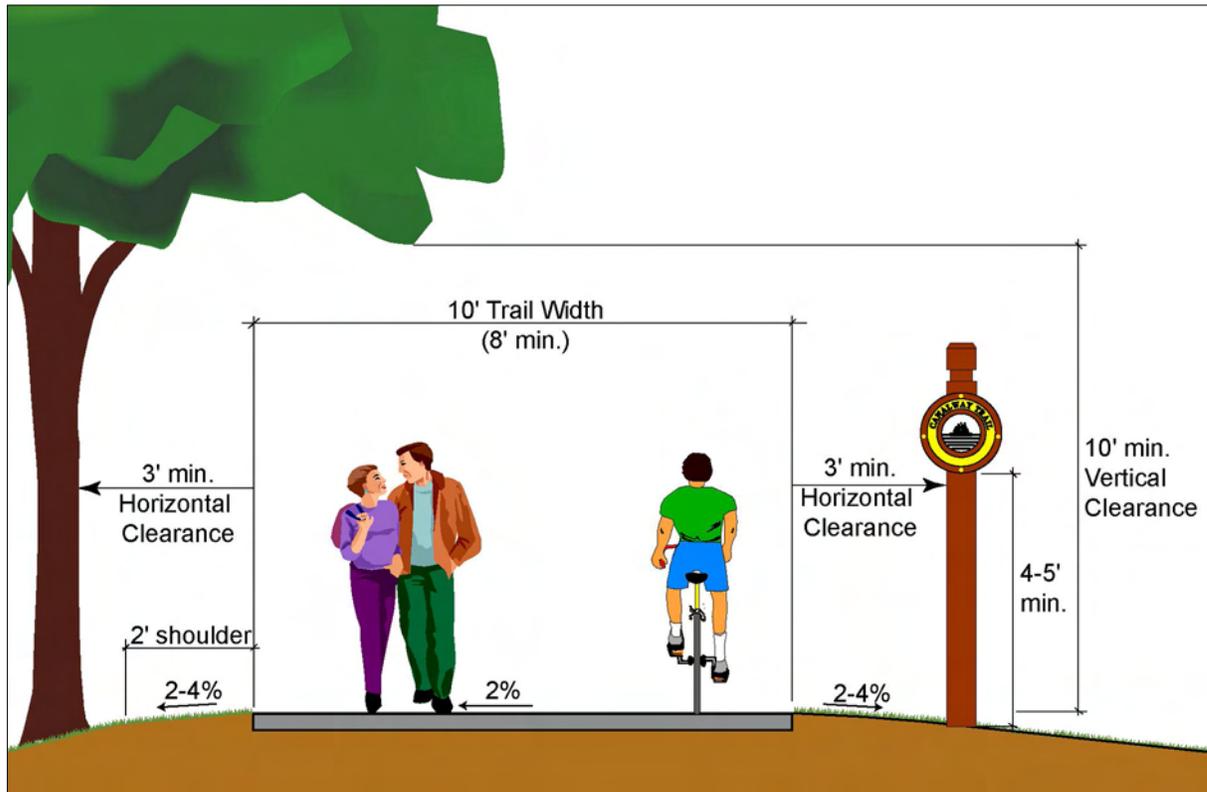


Figure 5-A – Typical Guidelines for Trail Width and Clearances (Erie Canalway Trail)

2. GRADE AND CROSS SLOPE

In general gradients on multi-use trails should not exceed 5% and the most gradual slope possible should be used. Due to the relatively flat terrain along the top of the riverbanks the proposed riverbank multi-use trails can meet accessibility guidelines. However there are instances where trails are crossing flood levees or walls or accessing the lower banks of the river (primarily for fishing access) where it is infeasible or inappropriate to meet ADA guidelines. In this case signs will be placed at access or decision points to advise trail users about upcoming trail conditions so they can assess their ability to negotiate upcoming trails. According to ADA guidelines, the maximum longitudinal grade for accessible multi-use trails shall not exceed 5% for more than 800 feet in length. A maximum gradient of 3% is more desirable. Access ramps and linking trails must comply with ADA regulations if they are part of an accessible route. Ramps between 5% and 8.33% must provide 5- foot long rest plateaus every 30 feet.

Cross slopes on paved surfaces should not exceed 2% and on non-paved surfaces should not exceed 5%.

3. TRAIL ACCESSIBILITY

It is important to ensure that all multi-use trails, particularly if funded with federal transportation funding, be made accessible to the greatest degree possible. In general the development of accessible trails along the Chemung River should be achievable due to the

relatively flat nature of the site. However there are many natural and man-made obstacles that will present challenges to project designers. In general the trail gradient should not exceed 5% if possible. Gradients between 5-8% will require a handrail to be considered an accessible route. Ramped sections of the trail should have level rest areas every 30' if possible. Cross slopes of trails and sidewalks should not exceed a 2% gradient.

Individuals with mobility impairments do not expect all trail routes to be flat and fully accessible. In fact, sometimes they are looking for areas that might present predictable challenges. Providing information about the accessibility of the trail route, at trailheads, trail access points, and decision points along the trail is the key to ensure that trail users of all abilities know the conditions that lie ahead and can make informed decisions before beginning their trip.

For more information about trails and accessibility, visit the Beneficial Designs web page at <http://www.beneficialdesigns.com>. Follow links to learn more about the Universal Trail Assessment Process (UTAP) which can be used to systematically document actual conditions in outdoor, natural environments.

4. HARD SURFACE TRAIL

Asphalt is the most common trail surface for heavily-used urban and suburban trails. Asphalt is also suitable for use in the floodplains along the Chemung River as it will resist erosion from seasonal flooding and can be easily cleaned off after flood events. Asphalt is less expensive, though less long-lived, than concrete and is accessible, accommodating a wide range of users including walkers, bikers, runners, inline skaters, adults with strollers, and those in wheelchairs. Concrete or unit pavers (brick or concrete) are sometimes used where a trail is more urban or when in a more formally designed waterfront promenade or plaza.



Figure 5-B – 10' Wide Asphalt Multi-Use Trail, Cayuga Waterfront Trail, Ithaca, NY

5. LIMESTONE DUST TRAIL

Limestone dust trail surfacing is the most common trail surface in rural areas of Upstate New York. Limestone dust is cost effective, durable and accessible if constructed properly. The material will compact and bind into a hard surface that comfortably accommodates all users, except for inline skaters and some on-road bicyclists with narrow tires. It requires a higher level of maintenance than asphalt to prevent erosion and prevent weed establishment. One benefit is that stone dust is more resistant to root damage to the trail surface than asphalt trails when located near large trees or wooded areas.



Figure 5-C – Limestone Dust Trail, 10'-wide Canalway Trail in Western NY

6. NATURE/HIKING TRAILS

Many areas along the Chemung River are used for walking, jogging and mountain biking by fisherman and adjacent residents. Given the expense of multi-use trail development and the sometimes complex multiple ownership of a trail corridor, informal trails can be an excellent and viable short-term, or even permanent, solution that enhances river access in a low cost and achievable fashion.



Figure 5-D – Existing informal paths provide low-cost access to the river.

7. EQUESTRIAN TRAILS

Chemung County has many equestrians and horse farms in or near the Chemung River corridor. The equestrian community was well represented at the Chemung River master planning meetings to indicate their support for the development of equestrian trails along the river. Equestrian trails do not require expensive surfacing and improvements. A 10' wide grass surface will function well for equestrian use. Equestrian trails can be sometimes be developed by volunteers on private land based on handshake or informal, short-term agreements.

The development of a comprehensive equestrian trail network where feasible along the Chemung River is one goal of this study. This is an excellent tourism development strategy as horse enthusiasts have high disposable incomes. Currently equestrians who reside in Chemung must travel to other regions to use trail networks. However, it should be noted that creating destination quality equestrian facilities requires some specialized facilities including trailhead parking areas and horse-friendly overnight accommodations.



Figure 5-E – Pine Creek Trail Is Shared by Bicyclist and Equestrians

8. MULTI-USE TRAILS

Multi-use trails are most often have a single tread (or track) that can range in width from 8' to 14'. These generally can safely accommodate the most common types of users if traffic levels are not exceedingly high. However, it is possible to have parallel treads to more safely accommodate different users in urban or suburban areas where trail use is high. One of the more common patterns is to have an 8' – 10' hard surface trail, most often asphalt, and a parallel stone dust trail for walkers and joggers that can range from 5' – 8' in width. An alternative pattern is for both treads to be hard surface. Generally the bike and blade tread

Chemung River Trail – Trail Design Standards

would be surfaced with asphalt and the walking and jogging tread either asphalt or a concrete sidewalk.



**Figure 5-F – Multi-Use Trail with Single Tread
(Lockport - Erie Canalway Trail)**



**Figure 5-G – Multi-Use Trail with Parallel Asphalt Treads
(Montreal - Rene Levesque Park)**



**Figure 5-H – Multi-Use Trail with Asphalt and Stone Dust Treads
(Philadelphia - Schuylkill River Trail)**

9. ON-ROAD BIKEWAYS

On-road bikeways provide important linkages in a regional trail network where multi-use trail development may not be feasible. Many experienced cyclists prefer cycling on the road, even if trails exist, since the road network reaches virtually all desired destinations and in general pavements are smooth and regularly maintained.

- a. **Shared Roadways** – a shared roadway is a street where bicyclists can comfortably share street space with motorists due to low to moderate traffic volumes and speeds. Even narrow lanes of 10' in width can be safely shared if motorists travel slowly and carefully. However, lane widths of 14' which are common for wide curb lanes or outside lanes are recommended where traffic volumes and speeds are higher, such as on collector streets.
- b. **Bike Lanes** – A bike lane is a lane for the exclusive use of bicyclists, delineated by a 6 inch lane strip, bicycle pavement marking symbols, and signs. Bike lanes are typically located on both sides of the road to the right of the outer most travel lane, just inside of the curb or the pavement edge. The recommended width of a typical bike lane is 5', although 6' is preferred if space allows and traffic volumes are high. Where there is on-street parallel parking, the bike lane should be located between the outside travel lane and the parking lane.

It can be challenging to find, or to create, the space required to build bike lanes, particularly in a village, town or city setting. Road widening can be expensive and have an impact on street trees and yard space. Removal of on-street parking, even just on one side of the street, can provide the needed space for bike lane installation. Space can also be gained by narrowing travel lanes. Motor vehicle travel lanes are typically 11' or 12' in width, though a 10' width is acceptable and common. Narrow travel lanes can also have a calming effect on motorists, helping reduce the speed of motor vehicles.

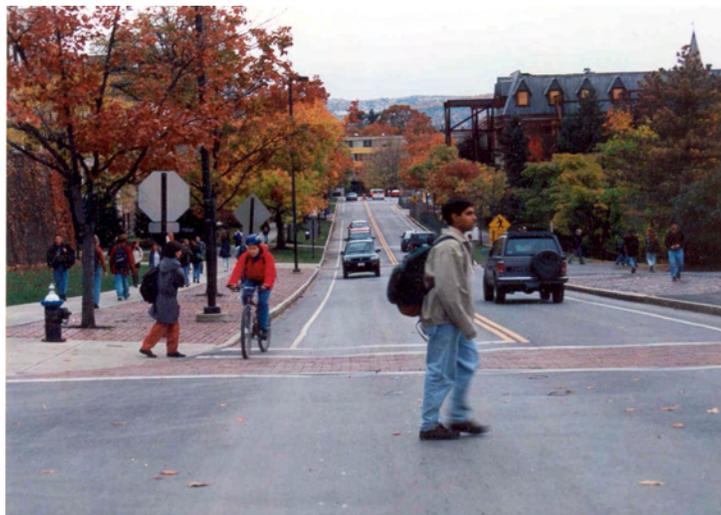


Figure 5-I – Bike Lane at Cornell University

10. SIDEWALKS

Sidewalks are typically 5' wide, concrete surfaces along a roadway curb or separated from the roadway by a curb and a 5 - 10' wide tree lawn. Sidewalks are essential for safe and convenient travel by pedestrians, adults with strollers, wheelchair users and the mobility impaired, and children cyclists (under the age of 10). Sidewalk use by children on bicycles is legal and to be expected. Curb ramps at road intersections are a critical element of an accessible pedestrian route.

Using a sidewalk as a multi-use trail is usually undesirable; however it is an option where other design alternatives are not feasible, particular in filling short gaps between sections of off-road, multi-use trails. In these cases the designer should consider the following mitigating measures to improve the safety and function of the sidewalk section:

- Widen sidewalk to 8 – 10' width.
- Provide additional pavement striping and signing to alert sidewalk/trail users and motorists on adjacent roadway about the special use of the sidewalk;
- Removal or relocation of fixed objects along sidewalk to prevent conflicts and crashes;
- Ensure adequate site distances.

C. Trail Elements, Support Facilities and Furnishings

1. TRAILHEADS AND TRAIL ACCESS

Trailheads are the major access points to the trail. They can range from very simple facilities that provide only parking and trail information to more elaborately designed spaces that incorporate many design elements. Typical trailhead features include parking with accessible spaces, kiosks with trail maps, regulations and interpretative panels, restrooms, drinking fountains, benches, trash and recycling receptacles, picnic tables, bicycle parking, and telephones or emergency call boxes. They can also include decorative pavements and attractive landscaping.



Figure 5 - J– Cayuga Waterfront Trail Crossing and Trailhead.

2. TRAIL INTERSECTIONS

Designing safe trail and roadways intersections is one of the most critical components of the trail design. Typical elements of a trail and road intersection include signage, pavement striping and bollards or gates to restrict motor vehicle access to trail.

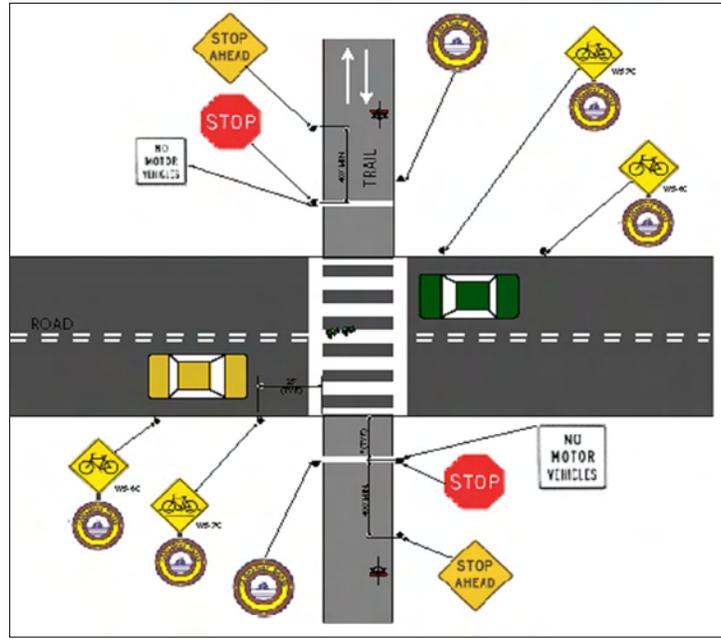


Figure 5 – K – Typical Signs and Pavement at Rural, Unprotected Trail Crossing

3. TRAIL ACCESS CONTROL

Limiting motor vehicle access to the trail from parking areas and intersecting roadways is a critical design element of a trail. This is most commonly done with a row of bollards or, as shown below, with a combination of bollards and half gates or gates. Emergency and maintenance vehicle access is provided by the installation of a removable bollard or a half gate that swings open. Where space allows, the half gate is preferred over the removable bollard because of its ease of opening during all seasons. Both systems provide 5' – 6' of horizontal clearance to allow bicyclist, walkers, and other trail users to safely pass through. Typically, these structures are set back at least 20' from the road edge to allow vehicles to pull off the roadway to unlock the gate or bollard.

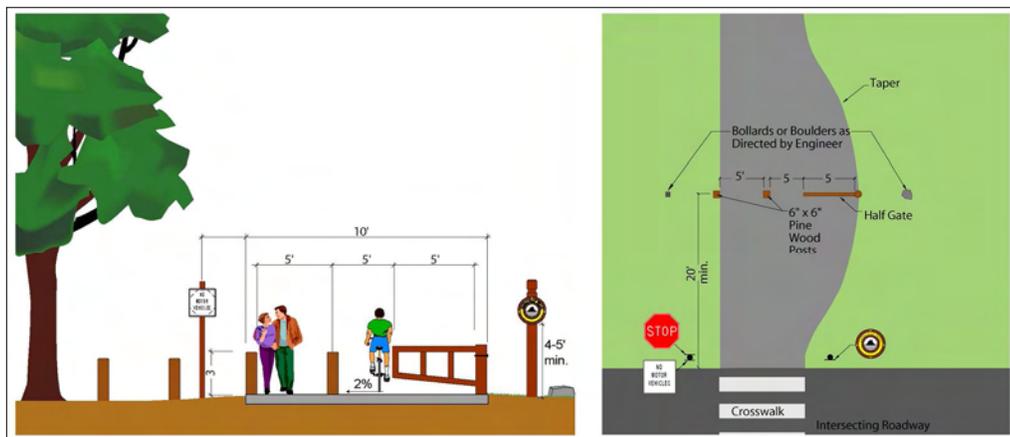


Figure 5 - L – Where space allows bollards and a half gate are used along the Erie Canalway Trail to limit motor vehicle access to the trail.



Figure 5 - M – Bollard at entry to trailhead at Petit Train du Nord Trail in Canada.

4. TRAIL FURNISHINGS

Following are some of the furnishing commonly found along multi-use trails that enhance the comfort and utility of a trail while helping create a trail's unique character:

- a. **Kiosks** – found at trailheads, entries and other areas along a trail, kiosks are structures that support trail maps, interpretive panels, bulletin boards and information brochures. They help provide an identity for a trail as they generally are highly visible throughout a trail network.



Figure 5 – N – Genesee (Roch., NY)



Figure 5 – N2 – Canalway Trail Rustic Kiosk (Palmyra, NY)



Figure 5 – N3 – Solar Kiosk (Foor & Assoc.)

- b. **Benches** – Benches should be placed at trail entries, trailheads and at regular intervals along a trail to provide users with resting places. Typically they are placed where there are attractive views or at special areas of interest along the trail. They can be constructed of a variety materials ranging from wood, recycled plastic, or steel. They can be purchased from manufacturers or constructed locally with volunteer labor. Benches should be provided at least every ¼ mile along a trail to provide regular resting places. If there are a lot of senior citizens or mobility-impaired users, they should be installed at even more frequent intervals.



Figure 5 – O – Cayuga Waterfront Trail Bench, Ithaca, NY

- c. **Bicycle Parking** – Bicycle parking is an important element of a trail's infrastructure that allows trail users to rest and take advantage of services and facilities along a trail while feeling their bikes are secure. There are many different bike racks available commercially and one can also be creative their design. The inverted U rack is generally acknowledged as a highly functional and affordable rack design that can accommodate two bicycles each.



Figure 5 – P – Bicycle parking at converted train station along Petit Train du Nord Trail.

- c. **Restrooms** – Providing restrooms along a trail is a valued service for trail users. Generally plumbing is not available, so either composting or portable toilets are often used. Composting toilets are generally more expensive, but a more permanent and attractive alternative that requires less maintenance. Portable toilets can be covered or screened with trellis structures and landscaping so they are not eyesores along the trail.

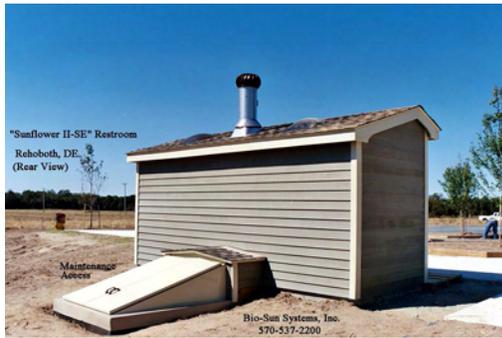


Figure 5 – Q – Clockwise: Rehoboth Beach, DE; Rest Stop in remote area with Portable toilet along Petit Train du Nord Trail; Composting Restroom at Colton Point, PA.

- e. **Telephones and Emergency Call Boxes** – the prevalence of cell phones are reducing the necessity of telephones along a trail. However emergency call boxes are an important feature that enhances trail safety and a users sense of security along a trail. Increasingly these are available with solar and cell phone technology, eliminating the need for extending wiring and utilities.



Figure 5 – R – Emergency Phone

5. TRAIL SIGNS

Just as signs are critical to the safe and convenient functioning of a road or highway network, signs serve many critical functions in a regional trail system. Signs can warn of hazards, inform trail users about rules and regulations, provide information about a site's history, and help enhance the identity of a trail in the community.

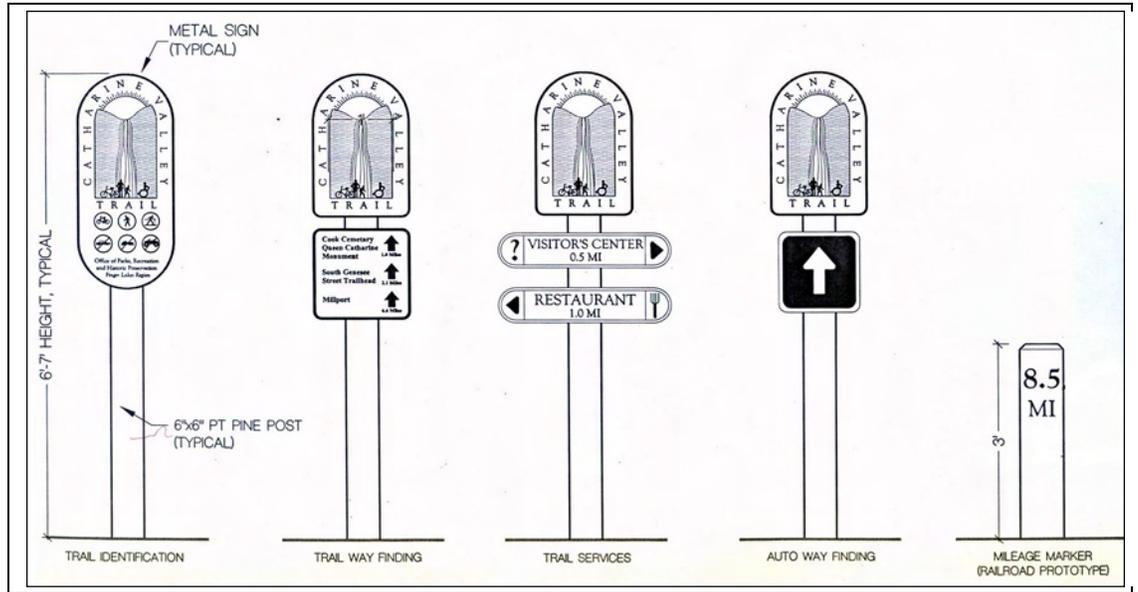


Figure 5 – S – Prototype Sign Designs for Catharine Valley Trail

Following are some of the sign types that comprehensive sign system for a trail network.

a. Informational Signs

1. **Trail Directory or Kiosk** – Directories can 2, 3 or 4 sided structures commonly placed at highly visible locations that support various sign panels including trail maps, information about local services near the trail, rules and regulation, and information about the natural and cultural history of the site, area, or region.



Figure 5 – T – Canalway Trail 3-Sided Directory

2. **Interpretive Signs** – Interpretive signs are located at or within viewing distance of special features along the trail. Panels can be placed vertically, and integrated into a kiosk, or can be a low-profile design that provides information without blocking critical views. Durable, colorful and modestly priced sign fabrication systems are now available that make these signs easily incorporated into most trail projects.



Figure 5 – U – Low-Profile Interpretive Sign along Canalway Trail

b. Directional/Outdoor Wayfinding Signs



1. **Auto Wayfinding Signs** direct motorists to trailhead parking facilities and are often displayed with warning signs at trail and road intersections. These signs help build awareness of a trail in a community by informing motorists the name of the trail they are crossing.
2. **Trail Wayfinding Signs** inform trail users about the direction and distance to various destinations along the trail. These are located at decision points, intersections and entries to the trail.

- Trail Mileage Markers** are small signs or markers placed at regular intervals along a trail's length to indicate the mileage. This is particularly useful for those training on the trail or for mobility-impaired users.



Figure 5 – V – Mileage Markers (Indianapolis – left; Austin - right)

- Trail Services Signs** inform trail users about services and facilities adjacent to the trail, such as restaurants, convenience stores, ice cream shops, hotels and bed and breakfasts. Generally these signs are found at road intersections and tell trail users the direction, distance and name of nearby facilities.



Figure 5 – W – Services sign tabs at trail intersection – Petit Trail du Nord Trail

c. Warning and Regulatory Signs

Warning signs are typically diamond-shaped metal signs with black lettering on a yellow background, like the 'stop ahead' sign shown below. They warn cyclists and motorists when caution is advised and are most commonly found at trail intersections. Regulatory signs are square metal signs with black or red lettering on a white background. Along trail systems, the most common regulatory signs are “no motor vehicles” signs found at trail intersections or no parking and handicap parking signs.



Figure 5 – X – Yellow warning sign embedded into coordinated trail sign system – Indianapolis.