

Morris Canal greenway

25-year action plan



June 2012



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Executive Summary

Executive Summary

What is the Morris Canal and Why is it Important?

In 1821, many of the then 24 U.S. states were separated from one another because of poor transportation arteries. Because roads were not always suitable for heavy transportation, hauling by wagon was expensive and slow. In place of roads, canals were able to provide a more viable means of transportation to fuel growth.

In New Jersey, Morristown businessman George P. McCulloch, brought together a group of citizens, to propose what would become the Morris Canal. By September 1825, 30 miles were under contract with 700 men digging the canal bed. Construction of the locks and inclined planes began later. Compared to other canals, the Morris Canal had to do quite a bit of climbing to go from the Delaware River to New York City. From Easton, the canal climbed step by step from one plateau to another and across lakes and rivers until it reached the Lake Hopatcong area, its summit level. From there, it descended to tide level at Newark. Locks overcame small changes in elevations, and inclined planes, used for the first time, overcame changes in elevation greater than 20 feet.

On November 4, 1831, the first trip from Newark to Phillipsburg on the 90-mile canal was completed in about five days. In 1836, an 11.75-mile extension to Jersey City was added, making the main line of the canal 102.15 miles long. When all the navigable waters, including other feeder canals controlled by the canal company were combined, the full waterway covered 109.26 miles. Within this distance were 23 inclined planes and 34 locks consisting of feeder, outlet, tide, guard, and lift locks.

Unfortunately, the canal became a victim of progress. While canals, including the Morris, enjoyed growth, railroads increasingly encroached on canal business. Even though the Morris Canal transferred east-bound shipments of coal from the Delaware, Lackawanna and Western Railroad between 1856 and 1870, the maximum of 146,359 tons in 1867 dropped to 80,977 tons the following year and disappeared altogether after 1870. The loss of coal business to the Delaware, Lackawanna and Western Railroad amounted to about 34.4% of the entire coal business transacted by the Morris Canal at that time.

It would take another 31 years, though, before the legislature would pass a resolution on March 31, 1903, to investigate and recommend legislation to abandon the canal. As expected, the



Photo of the canal near Brass Castle. Photo courtesy of New Jersey State Archives



Photo of the Port Delaware. Photo courtesy of New Jersey State Archives

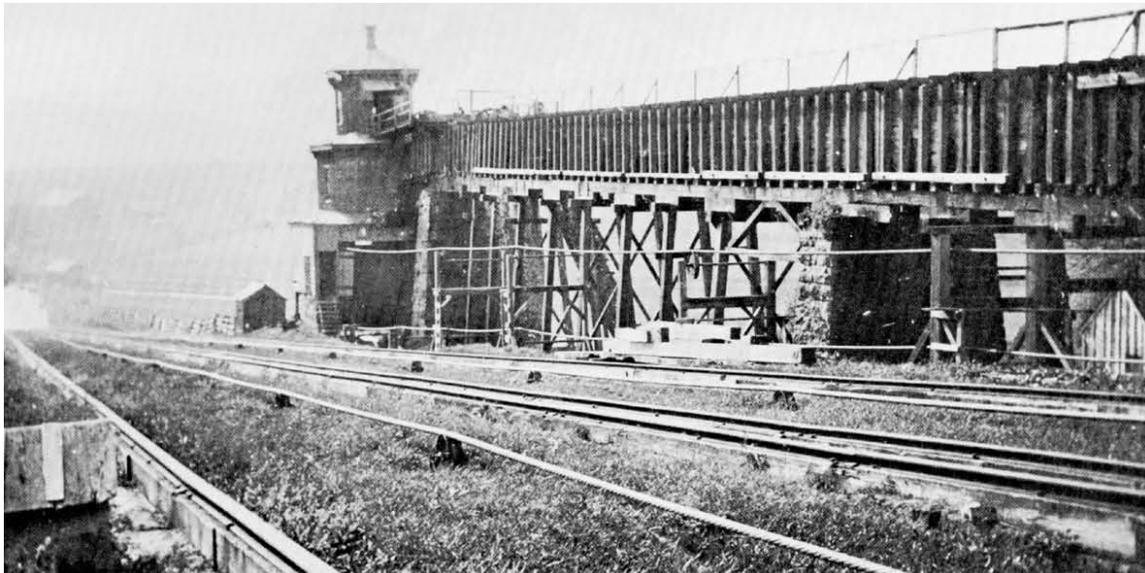
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study commission reported there was no longer an economic reason to keep operating the canal and recommended abandoning it. On March 12, 1922, the legislature created a commission tasked with transferring the Morris Canal to the state. Eight months later, on November 29, 1922, the state of New Jersey acquired the canal with the exception of property within the town limits of Phillipsburg and Jersey City. In 1924, a bill provided that the Morris Canal and Banking Company continue as a corporation holding the property as trustee for the state, that members of the Board of Conservation and Development be made directors of the corporation. This meant that operation of the canal would end, that Lake Hopatcong, Lake Musconetcong, Cranberry Lake, Bear Pond, Saxton Falls, and Greenwood Lake be retained for public use, and that remaining property be sold.¹

The Morris Canal is among 41 places listed in the National Register of Historic Places in Warren County. Each of these places tell stories about the people who lived in and “grew” the county. These historic places tell stories about transportation, architecture, engineering, commerce, politics, community planning, industry, education, religion and more. They tell stories about what challenged and inspired people’s lives. Today, they inspire newer generations of historians, artists, engineers, and others seeking to learn from and apply the past to the present by reading about and examining the artifacts we preserve.

Today, people who time their fast-paced lives by the minute would be vexed by the slow-moving Morris Canal. People don’t know what it was like to live and work in the early 1800s, before trains were introduced, when waterways, including canals, were the transportation highways that helped build America. Today, canals, like other historic sites, are a reminder of that slower past. Boats left dock only when full and moved very slowly. It took five days to travel from Jersey City to Phillipsburg and during this journey; life was a constant struggle against the elements.

In addition to telling these stories of trial and tribulation, the Morris Canal represents a valuable historical record of canal engineering and the people who built it. Construction and maintenance were accomplished by men and animals following designs dating to Roman times. Canals were and still are complex engineering feats.



View looking northwest at the Plane 9 West Powerhouse. Photo courtesy James Lee, *The Morris Canal: A Photographic History*

¹ Lee, James. “Morris Canal – A Brief History.” | Dig The Morris Canal

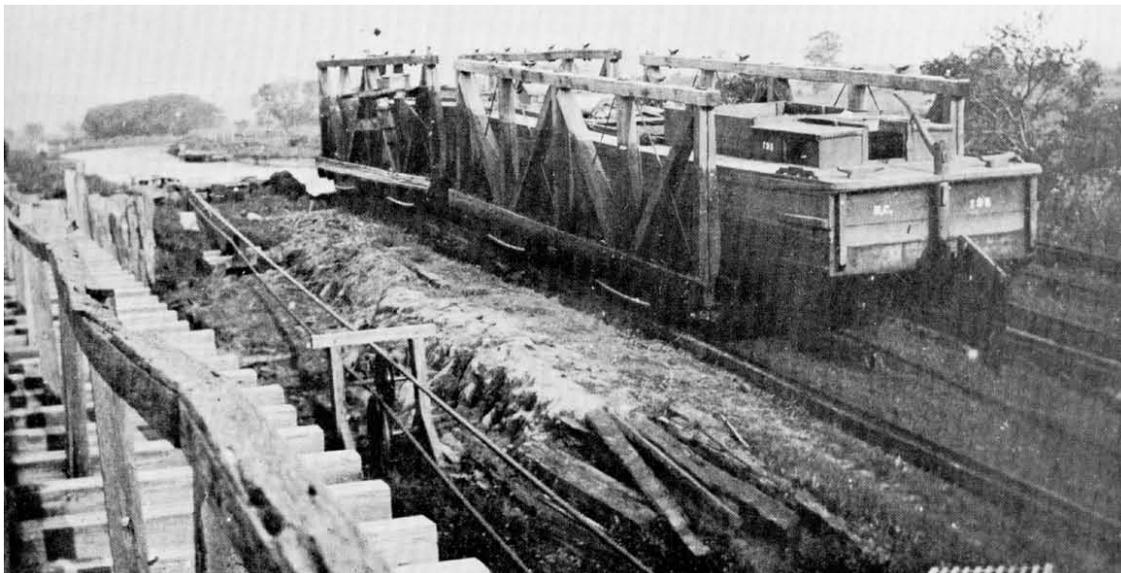
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What distinguished the Morris Canal from other canals such as the Delaware and Lehigh canals in Pennsylvania was the use of inclined planes, which were designed to overcome changes in elevation that could not be achieved efficiently by locks alone. Instead of using water to raise or lower a boat in a lock, boats were loaded onto wheeled cradles or “trucks” that were then winched (by cable) out of the water, up an inclined plane, and over the plane’s crest before being lowered down a short incline into the next canal level. When boats travelled in the opposite direction, the process was reversed. At first, power for hauling and lowering boats was supplied by water wheels, but these were later replaced by water-powered turbines.²

The proximity of the Morris Canal to other historic resources in Warren County - such as Shippen Manor, the village of Hope, and the historic districts in Hackettstown - should be realized as a significant and unique resource for the heritage tourist. For many preservationists and heritage tourists, preserving artifacts and structures is justified in its own right, but many Warren County residents and the general public do not see the value of spending tax dollars on preservation of the canal. Despite best efforts to develop quantitative measures of preservation benefits, projects like the canal greenway are challenging to quantify in this way. Historic preservation involves much more than saving and restoring old buildings and historic sites; externalities such as economic, cultural, environmental, and educational benefits of historic preservation all play a significant role. Uncovering the potential positive impacts of the canal greenway can help develop public support ensuring that they remain a significant part of their community while satisfying one of the goals of this 25-year action plan.

Introduction

In 2007, building on the momentum and hard work of the Warren County Morris Canal Committee, the Warren County Board of Chosen Freeholders recognized the need to develop a vision for the future of the Morris Canal Greenway. Acknowledging this 33-mile historic and recreational resource within the county was the first step in its future development. To formalize this recognition, the board passed a resolution expressing its desire to develop a 25-Year Action Plan for the Morris Canal Greenway.³



View of boat at summit of Plane 9 West. Photo courtesy James Lee, *The Morris Canal: A Photographic History*

² <http://www.catskillarchive.com/rrextra/abnjmc.html>

³ Warren County, Resolution 603-07: Resolution to Develop a Twenty-Five Year Action Plan for the Morris Canal

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Additionally to provide guidance throughout the project, county representatives and members of the Warren County Morris Canal Committee developed the following four objectives:

- Respond to the county and municipalities' recognition of the need for a contiguous trail system or greenway;
- Promote eco-tourism and strengthen local economy;
- Connect people to the past through interpretation; and
- Attain National Heritage Corridor Designation.

To understand the implication of this decision and the associated objectives, it is first important to understand what is meant by the terms 'greenway' and 'action plan.'

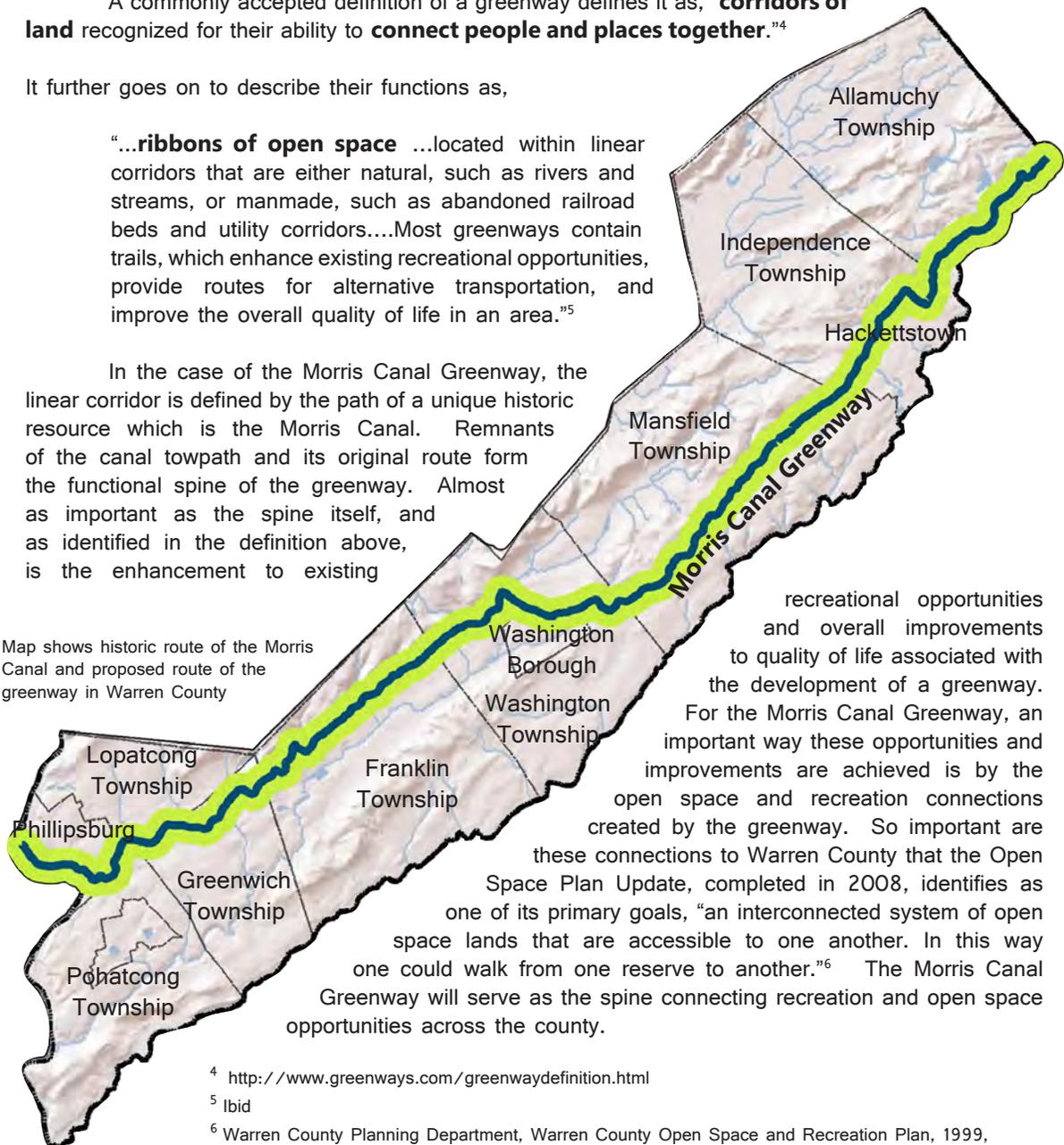
A commonly accepted definition of a greenway defines it as, "**corridors of land** recognized for their ability to **connect people and places together.**"⁴

It further goes on to describe their functions as,

"...**ribbons of open space** ...located within linear corridors that are either natural, such as rivers and streams, or manmade, such as abandoned railroad beds and utility corridors....Most greenways contain trails, which enhance existing recreational opportunities, provide routes for alternative transportation, and improve the overall quality of life in an area."⁵

In the case of the Morris Canal Greenway, the linear corridor is defined by the path of a unique historic resource which is the Morris Canal. Remnants of the canal towpath and its original route form the functional spine of the greenway. Almost as important as the spine itself, and as identified in the definition above, is the enhancement to existing

Map shows historic route of the Morris Canal and proposed route of the greenway in Warren County



recreational opportunities and overall improvements to quality of life associated with the development of a greenway. For the Morris Canal Greenway, an important way these opportunities and improvements are achieved is by the open space and recreation connections created by the greenway. So important are these connections to Warren County that the Open Space Plan Update, completed in 2008, identifies as one of its primary goals, "an interconnected system of open space lands that are accessible to one another."⁶ The Morris Canal Greenway will serve as the spine connecting recreation and open space opportunities across the county.

⁴ <http://www.greenways.com/greenwaydefinition.html>

⁵ Ibid

⁶ Warren County Planning Department, Warren County Open Space and Recreation Plan, 1999, 2008 Update.

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Plaque located at Plane 9W identifies its status as a National Historic Landmark

The second term critical to understanding the importance of this decision is ‘action plan.’ In this sense, action plan is really a synonym of ‘master plan.’ Master plan is defined by the American Heritage Dictionary as, “a plan giving comprehensive guidance or instruction.”⁷ Similarly, it is defined by the Collins English Dictionary as, “a comprehensive long-term strategy.” Considering these definitions, the 25-Year Action Plan attempts to capture the potential goals and ideas of the participants in the planning process and provide guidance and a strategy to implement ideas and achieve goals. It provides a potential roadmap to greenway creation. Unlike a traditional roadmap however, the recommendations of this plan do not need to be completed in a linear fashion. Rather, it outlines a menu of tasks to be completed as funding and resources allow. Completion of any combination of these tasks will contribute to the overall creation and success of the greenway in one of many ways.

It is not likely that all of these tasks can be completed in the 25-year horizon of this plan. Instead, it should be understood that the recommendations within are intended to be completed as opportunities and funding sources allow. The recommendations within are also not meant to be considered a complete list of projects, but a snapshot in time of the current opportunities and desires. It is important to recognize this and understand that this plan is meant to provide the basis as a living document to be continually revisited throughout the next 25 years.

Existing Features

The Morris Canal is the most important existing feature of the proposed greenway. Simply it determines the route of the greenway across Warren County. Looking deeper it has shaped the cultural and historic landscapes of the communities along its length. The 25-Year Action Plan considers the canal related historic and cultural resources located adjacent to the canal as well as those within close proximity to the greenway. Resources with the potential to contribute to the overall

⁷ The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.

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story of the canal or those which have potential to be an attraction on their own have been discussed and reviewed in greater depth. Some specific resources, such as Plane 9 West and Bread Lock Park, were also identified as critical keystones to the future of the greenway.

In addition to the historic resources in close proximity to the route of the greenway, the existing features study completed as part of the 25-Year Action Plan, included identification of potential community and recreation linkages. These types of linkages varied depending upon location, but generally they fell into one of a few key groups. The first group identified was based on economic development potential. These linkages were identified in cases where the greenway's proximity to a group of businesses, or even an entire business district, was ideally suited to share users. Examples of this type of linkage can be seen in the proposed greenway/business district connections found in more densely developed areas, such as Phillipsburg, Washington Borough and Hackettstown. Other locations along the trail also presented opportunities for these types of linkages and a good example of this would be the potential connections to businesses located along Route 519, near Stryker's Road.



Businesses with potential to benefit from the greenway, like this one in Phillipsburg, were identified as part of the study.

The second type of linkage identified was based on the greenway's proximity to other recreational resources. These resources ranged from active or passive recreation to destination based locations. Merrill Creek Reservoir, the Mansfield Township Sports Fields and the Charles O. Hayford (Hackettstown) State Fish Hatchery provide examples of the types of linkages considered here. The goal of identifying these locations was to increase open space and recreation linkages served by the greenway, promoting non-motorized, greenway-based access for a wide variety of user groups.

In strategies similar to identification of recreational opportunities, the plan also identifies potential linkages to schools, libraries and other educational facilities. Several schools, such as

Andover Morris Elementary in Phillipsburg, or Brass Castle Elementary in Washington Township, are located directly adjacent to the greenway, while others, such as the Warren County Community College in Washington Township or Centenary College in Hackettstown, can be connected to the greenway via a short side trail. The goal in providing these connections was multi-fold, allowing students to utilize the greenway as a method of traveling to and from school, as well as providing student access, via the greenway, to educational and interpretive opportunities located along its length.

The final type of linkages considered within this plan, are those which connect county residents to the greenway. In some cases, a large number of residents are located directly adjacent to the trail, while in others short connections allow access to all of the resources previously mentioned. Extensions of existing sidewalks would provide a greenway connection to the residents of the Overlook at Lopatcong, while a trail-based connection would achieve the same means for residents of the Oak Hill Apartments in Independence Township. These types of connections were determined to be important to the success of the greenway in that they quickly increase the potential user-base for the greenway.

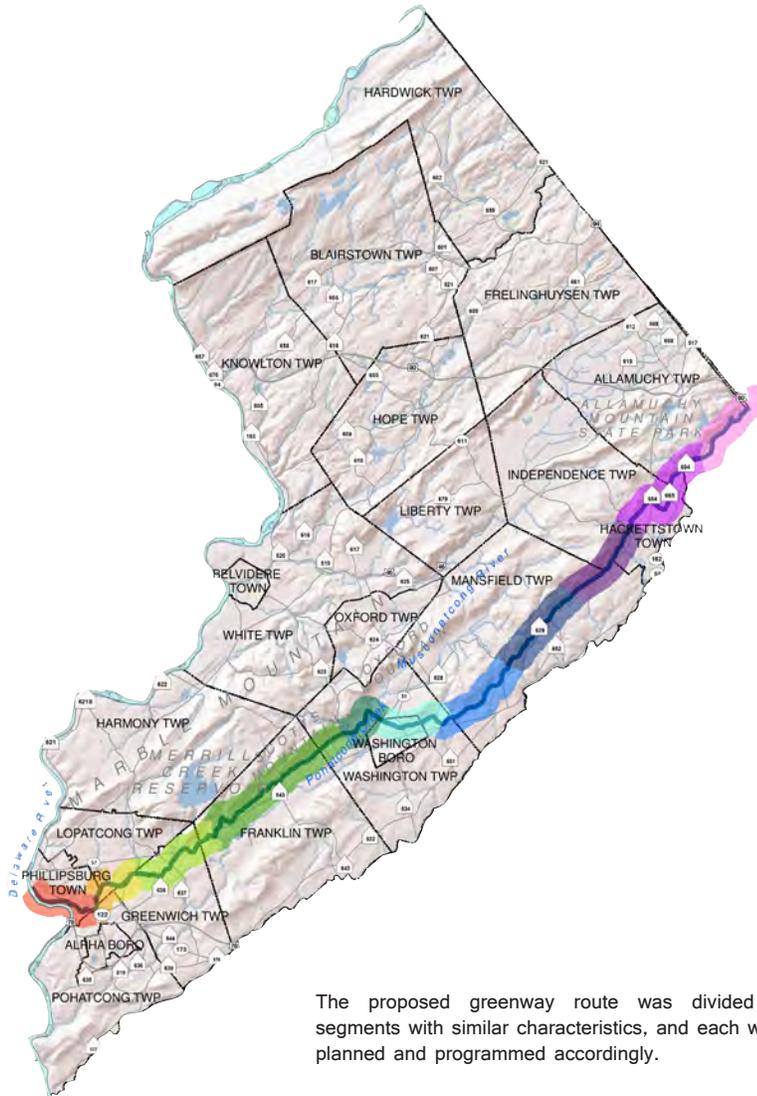
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Confirming existing resources, connections and greenway routing options, the 25-Year Action Plan included a comprehensive field view along its entire route. The field view documented existing conditions and identified other potential projects, such as pedestrian improvements or erosion issues, also addressed by the plan. One of the most important results of the field view was the division of the entire greenway into 12 individual segments. Extents of each segments was based on its ability to: provide a destination; create linkages; possess a unified character; ability to function on its own; and require similar strategies, along its length, for greenway establishment. The segments also help divide the 33-mile length of the greenway into manageable pieces for project implementation.

Supporting the plan’s consideration of physical elements of the canal and greenway, the plan also considers its impacts on other planning efforts and land use decisions. In its simplest form, this focuses on identifying synergies with the goal of other planning documents. The best example of this would be the 25-Year Action Plan’s support of connectivity goals found in the county’s Open Space and Recreation Plan. It also identifies parallels within other more regional planning efforts, such as the State of New Jersey’s Statewide Comprehensive Outdoor Recreation Plan or the New Jersey Statewide Bicycle and Pedestrian Master Plan. Overwhelmingly, the recurring theme most often shared between the 25-Year Action Plan and these other planning documents was the desire to provide or enhance non-motorized connections to recreational opportunities throughout the county and state.

Legend

- Segment 1**
 Downtown Phillipsburg to Lock St.
- Segment 2**
 Lock Street to Route 22
- Segment 3**
 Route 22 to Plane 9 W
- Segment 4**
 Plane 9 W to Bread Lock Park
- Segment 5**
 Bread Lock Park to Meadow Breeze Park
- Segment 6**
 Meadow Breeze Park to Washington Borough
- Segment 7**
 Washington Borough to Port Colden
- Segment 8**
 Port Colden to Port Murray
- Segment 9**
 Port Murray to Rockport Pheasant Farm
- Segment 10**
 Rockport Pheasant Farm to Florence Kuipers Park
- Segment 11**
 Florence Kuipers Park to Saxton Falls
- Segment 12**
 Saxton Falls to Waterloo Village
- Route of the Morris Canal**



The proposed greenway route was divided into segments with similar characteristics, and each will be planned and programmed accordingly.

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In addition to actual planning efforts, the plan also spends time considering a variety of land use topics surrounding the canal and greenway. Consideration focuses on implication of larger land use items, such as the impacts of the Highlands Planning Act on greenway strategies. It also studies more regionally based land use topics. A good portion of this is based on the existing Warren County Morris Canal Preservation Ordinance found in the County's Development Review Regulations which discuss ways in which local municipalities interact with the greenway and its associated resources. Finally the plan looks closer at locally based land use topics. Topics here were typically identified during the public forums and surveys. Security and liability concerns were typically the most commonly repeated themes. Addressing these items are some of the most critical to implementing much of the greenway.

The final portion of the existing conditions review of the plan considers the way in which the Morris Canal Greenway is currently managed and funded. This review was critical to understanding how projects are done on the Greenway currently. Without this understanding, the plan would not have the capability to provide options for other management and funding strategies.

The existing conditions portion of the 25-Year Action Plan evaluates a wide array of information and topics. All of these items contribute in some way to the overall experience and value of the greenway. They are important moving forward because they really build the foundation on which the rest of the plan is built.

Economic and Public Benefits

The 25-Year Action Plan for the Morris Canal Greenway specifically dedicates a section to the economic and public benefits potentially provided by the greenway. For the casual observer, these details represent the 'why' in the question of greenway creation. A clear understanding of these benefits is at the center of this plan. The quality-of-life improvements represented by the greenway are a key to retaining and attracting residents and businesses and can have a direct impact on the vitality of an area and associated property values.⁸

Generally, consideration of these benefits was broken into one of several categories:

- Ecosystem Benefits;
- Cultural/Historic Benefits;
- Educational Benefits;
- Public Health Benefits;
- Transportation Network Benefits;
- Tourism and Leisure Industry Benefits;
- Park and Open Space Benefits; and
- Benefits to Property Values.

The plan reviews the potential impacts of the greenway on each topic in depth, but a few of the more thought-provoking points are:

⁸ Why America Needs More City Parks and Open Space: The Benefits of Parks. The Trust for Public Land. San Francisco, CA 2006.

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- Results of a Community Preference Survey Conducted by the National Association of Realtors® show that 77% of Americans polled considered access to sidewalks and places to take walks as important factors in their decisions on where to live.⁹
- Homes located within a quarter-mile of a trail or greenway in nearby Pennsylvania experienced an incremental increase in home value of approximately \$36,000 depending on location.¹⁰
- An average trail visitor spends \$14.14 at local business on food and drink.¹¹
- Studies identified that a \$1.00 investment in local trails, reduced a community's health care burden by \$2.94.¹²

As well as looking at the potential benefits of the greenway, this portion of the plan also takes the opportunity to identify some ways in which similar areas built partnerships and leveraged recreational resources to enhance the greenway experience and stimulate local economic development. Examples provide a broad range of strategies, such as geo-caching, race fundraisers, increased interpretive tours, and online gift stores. This section also provides specific examples of opportunities for place-based economic development along the greenway at locations like Plane 9 West, Bread Lock Park or Saxton Falls.

Vision of the 25-Year Action Plan

The direction of the 25-Year Action Plan was guided by a Technical Advisory Committee (TAC), comprised of members of the Warren County Morris Canal Committee, County Planning Staff, key stakeholders and the general public via several open houses. This direction was further refined through the development of a formal vision statement as developed by the TAC. This statement consists of an introductory phrase with a series of supporting statements. The supporting statements each address a different aspect of the greenway identified during the process.

The vision guiding the 25-Year Action Plan for the Morris Canal Greenway became:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

...provides convenient access to a towpath trail for non-motorized passive recreation use

⁹ The Community Preference Survey: What Americans are looking for when deciding where to live. Beldon, Russonello & Stewart, LLC for the National Association of Realtors. Washington, D.C. March 2011

¹⁰ Delaware Valley Regional Planning Commission, Return on Environment – The Economic Value of Protected Open Space in Southeastern Pennsylvania, 2011.

¹¹ Rails-to-Trails Conservancy, Trail User Surveys and Economic Impact: A Comparison of Trail User Expenditures, 2009; 4ward Planning LLC, 2012.

¹² Kaczynski, et al. Association of Park Size, Distance, and Features with Physical Activity in Neighborhood Parks, Vol 98, No. 8, American Journal of Public Health.

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...stimulates the local economy through heritage tourism.

...leverages the value of the canal to support sound land uses planning decisions.

...increases public and private support for and involvement in canal preservation efforts.

A large amount of consideration was given to the specific content and language of the vision statement. Equal weight was given to all aspects of the greenway and the canal as a historic resource. This was based on a few key beliefs by the TAC, the first being that preservation of the canal should be accompanied by opportunities for interpretation and enjoyment of its associated resources. Also critical was enhancing the way communities currently interact with the canal and the ways in which future land-use and preservation activities impacted this resource.

Opportunities and Constraints

Utilizing the vision statement for general guidance, the TAC outlined a series of key opportunities and constraints. Opportunities are items that if drawn on would contribute directly to fulfilling one or more portions of the vision statement. Examples of this ranged from physical improvements planned for the near future or those currently underway, such as creation of a riverfront trail in Phillipsburg. Other examples of opportunities were less location-based and focused on ideas like building partnerships with other heritage based tourism organizations in the county.

In addition to opportunities, the TAC also identified specific constraints associated with the individual portions of the vision. A constraint was identified as any item which potentially represented a hurdle to fulfillment of a single portion of the greenway vision. In a fashion similar to the opportunities, the constraints were also represented by both location- and non-location-based items. One of the larger location-based constraints associated with the 25-Year Action Plan is providing a safe greenway



Potential connections to adjacent recreation facilities, like these at Meadow Breeze Park, were identified as opportunities.

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crossing of Route 22 in Lopatcong Township. Perhaps the greatest challenges to implementation of many portions of the greenway can be found in an example of a constraint common to many portions of the greenway. Local homeowners have concerns about security and potential liability issues associated with trail creation. Building partnerships with homeowners to address these types of concerns will help to foster public support of greenway projects.

The initial list of opportunities and constraints identified by the TAC was expanded based on feedback from the public and focus groups attained during outreach activities which included two stakeholder meetings, focus group sessions, land owner survey and two public information sessions completed as part of this project.

Once compiled the list of opportunities and constraints served as the basis for development of the individual recommendations found in this report. The recommendations were intended to utilize an opportunity to promote and identify methods of overcoming specific constraints or hurdles to the fulfillment of the vision statement.

Recommendations

The recommendations of the 25-Year Action Plan for the Morris Canal Greenway are really the reason for the document. They, more than any other portion of the document help to provide the direction for the greenway. Generally the recommendations are divided into two main categories: segment recommendations and greenway-wide recommendations.

Divided by the greenway segment in which they are located, segment recommendations are those which tend to be more location-based. Generally most of these recommendations focused on projects specifically related to creation of an actual greenway trail, but they also included projects intended to build stronger relationships with adjacent landowners and creation of synergistic relationships with local business.

Greenway-wide recommendations were those that had larger and more regionally comprehensive implications associated with the greenway. These recommendations were organized into one of several categories:

- Resource Preservation Strategies;
- School Education Strategies;
- Public Education Strategies; Economic Development and Funding Strategies;
- Greenway Operation Strategies;
- Land Use Policy Strategies;
- Public Participation Strategies; and
- Organizational Strategies.

Specific greenway-wide strategies of note included those intended to promote economic development in concert with greenway creation and strategies to improve local and regional collaborations of greenway related projects.

Executive Summary

All of the recommendations within, except in a unique few cases, are meant to stand on their own. Meaning, completion of any one project will contribute to the overall goals of the greenway. Completion of a few key recommendations in most of the segments will provide trail-based linkages across this portion of the greenway. As more recommendations are completed, more of the vision will be addressed and the larger the impact of the greenway will be.

For either type of recommendation, segment-based or greenway-wide, specifics are provided, including: general descriptions; specific recommendations; time frames and milestones; estimated costs; potential funding sources and implementation agencies. Other than the general project descriptions and specific recommendations, the information provided with each recommendation is really meant to help in prioritizing and funding projects.

Provision of specific project costs was discussed at great length during the process of developing this report. The costs included within provide a conceptual estimate of the 2011/2012 costs associated with physical improvements, obligations of Warren County staff time or the monetary value of volunteer labor needed to complete a given project. Actual cash expenditures will be reduced greatly as donations of materials, volunteer time and labor are utilized in the implementation of many the projects. Since most projects are currently conceptual in nature and specific details are unknown at this time, a range of costs provides insight into the potential requirements for medium- and long-term budgeting efforts. These items are often critical in determining a project's eligibility for funding opportunities and will aid in further prioritizing projects.

Implementation agencies and potential funding sources are also provided for each recommendation. Implementation agencies are included to provide guidance as to potential partners in the completion of any one given project. The expansive nature of many of the recommendations contained within the plan requires that successful implementation be the result of a collaborative effort between many agencies. Greater collaborative efforts during the execution stage of any of these recommendations, will result directly in an increase of the chances for a project's success.

Potential funding sources have been provided for each recommendation in an attempt to provide general guidance as to the types of sources which typically fund a specific project type. In addition to the sources listed there are many other sources available to municipalities and organizations that take the effort to research and identify them. It is also likely that throughout the life of this plan, many of the funding sources identified within will be eliminated and new sources will come on line, so continual reassessment of available funding opportunities will be necessary.

The recommendations of the 25-Year Action Plan for the Morris Canal Greenway serve as the specific directions clarifying the route forward. Many portions of the greenway and goals of this plan can be completed with the successful implementation of a few projects, while others will require the synergy provided by completing a larger number of projects. The recommendations in this report should not be seen as an exclusive list of the tasks needed to create a flourishing greenway, but they are intended to provide a snapshot of the potential recommendations as identified during the planning process. It is likely that throughout the life of this report, opportunities and circumstances will evolve which dramatically change priorities, illuminate new possibilities and eliminate the need for some of these recommendations.

Executive Summary

Conclusion

The 25-Year Action Plan examines ways to provide safe pedestrian and bicycle access along the canal greenway while promoting historic awareness. The plan utilizes the historic route of the Morris Canal whenever possible, with alternative routes to bypass inaccessible sections or provide linkages to other trail systems, historic sites and other attractions. The plan lays out the initial roadmap for the next 25-years of greenway development. It is not meant to be an absolute but is intended to provide general oversight and guidance to those making the decisions. The ways in which the greenway actually develops, may be very different from what was expected during the writing of this plan. As such, its content, vision, goals and recommendations should be continually reevaluated to ensure it remains relevant. At the end of the next 25-years, this plan should serve as the foundation for setting the direction for the following 25-years for the Morris Canal Greenway.

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Introduction

If one asset shaped the cultural landscape and development of a region, more than any other, would it be worth saving? If this asset could be the foundation that defines a historic and recreation greenway stretching across that region, would it be worth preserving? If this asset could stoke a fire of economic development for nine municipalities, would it be worth fueling? For Warren County, this 'asset' is the Morris Canal, and the answers to these and other questions are the rationale for this plan.

Whether destroyed, threatened or intact, the canal and its associated resources is the critical thread that binds together the proposed greenway. It defines the route and sets the stage. It is likely that the greater public will be more interested in the recreational opportunities offered by the greenway. However, the journey along the way will be defined by the rich history of the Morris Canal. Continued preservation and promotion of the canal will continue to enhance other aspects



The Canal Arch in Phillipsburg represents the historic beginning point of the Morris Canal.
Photo courtesy New Jersey State Archives

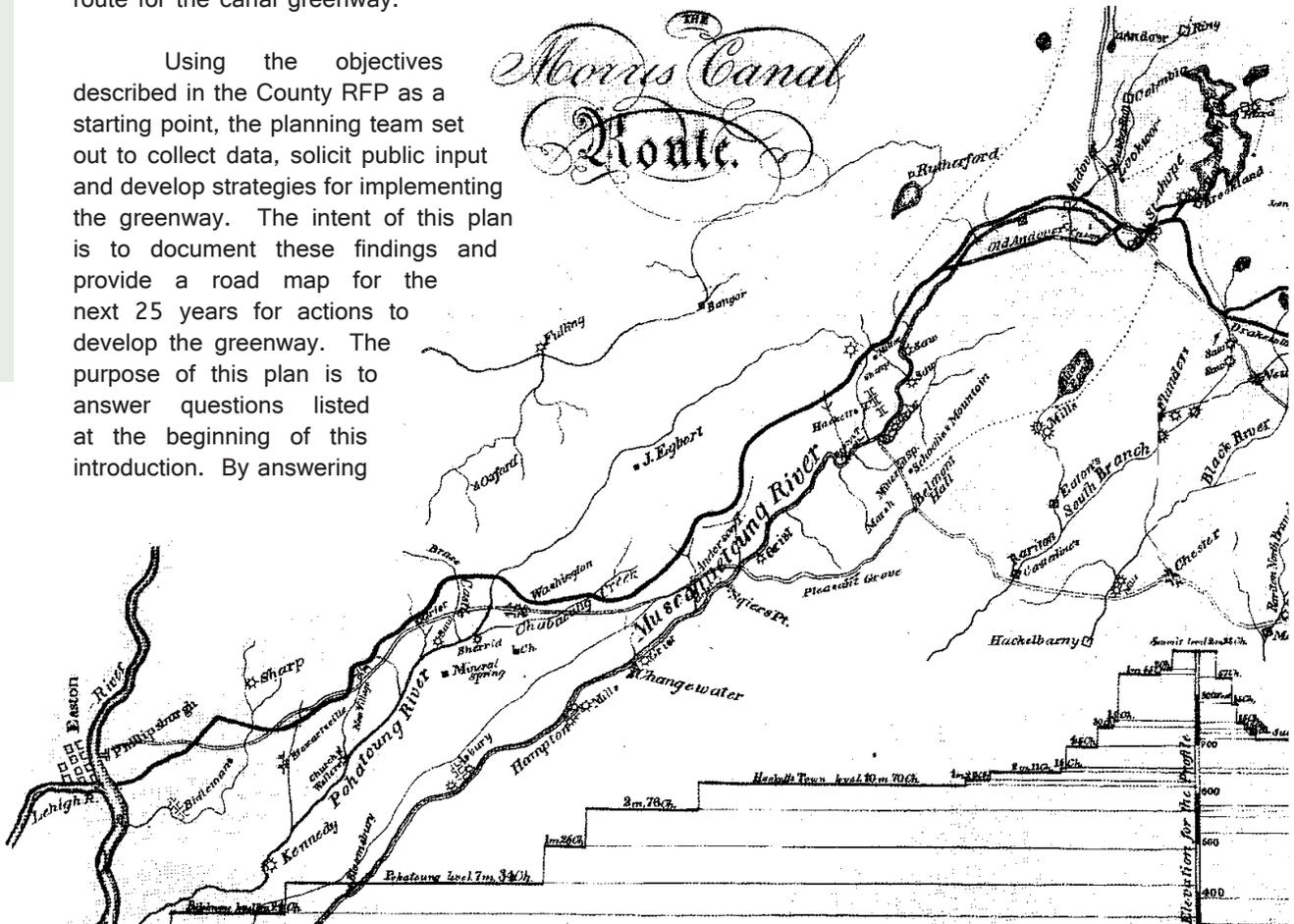
Introduction : *Purpose of this Plan*

Purpose of this Plan

By resolution in 2007, the Warren County Board of Chosen Freeholders expressed its desire to develop a 25-Year Action Plan for the Morris Canal Greenway. "The Board recognized that a course of action needs to be prepared to evaluate the vision for the Morris Canal Greenway and prepare a plan that will establish goals and milestones, propose projects necessary to meet the goals, define the strategies and methods to be employed, project the costs and the funding sources, propose the organizational structure and interrelationships of public and private entities needed to meet the vision, and project the economic and public benefits that will be realized."¹ The board also recognized that the Morris Canal Greenway had the potential to become a major tourist attraction in Warren County and serve as a regional recreational amenity.

Warren County Planning Department developed an RFP or request for proposals to develop a vision plan for the Morris Canal Greenway in 2010. Langan Engineering kicked-off the project in May of 2011 and began developing the vision plan that you are reading, here. The 12 month process included the collection of data and documentation of field conditions, public outreach and participation and consultation with various constituent groups with particular interest in canal history, the development and refinement of the plan objectives and the identification of a preliminary route for the canal greenway.

Using the objectives described in the County RFP as a starting point, the planning team set out to collect data, solicit public input and develop strategies for implementing the greenway. The intent of this plan is to document these findings and provide a road map for the next 25 years for actions to develop the greenway. The purpose of this plan is to answer questions listed at the beginning of this introduction. By answering



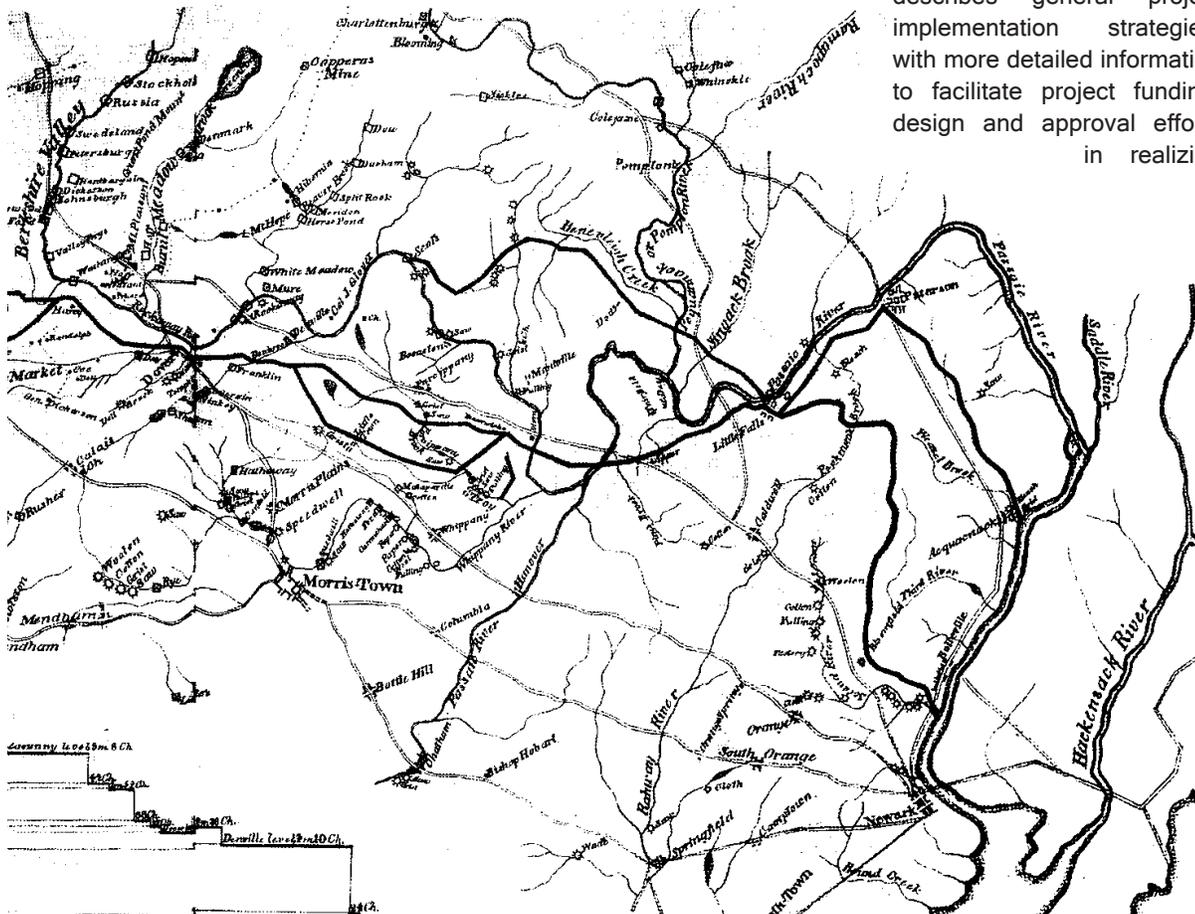
¹ Warren County, Resolution 603-07: Resolution to Develop a Twenty-Five Year Action Plan for the Morris Canal

Introduction : Purpose of this Plan

these questions, the plan will continue the current efforts to establish a greenway and multi-use trail linking major parts of Warren County. Carrying out the plan will preserve a valuable historic resource and foster public interest in the Morris Canal. It will provide recreational opportunities for a large audience and guidance for land-use decisions. The plan will also celebrate the rich history of the Morris Canal.

The final plan describes specific strategies, recommendations and projects intended to guide the next 25 years of development for the Morris Canal Greenway. It prioritizes specific items based on the feasibility, costs and public support. It is a "road map" but not one meant to be static in the sense of a permanent map. Rather, it will be a living document for the County to revisit during the next 25 years as the canal greenway is implemented.

The action plan presented here examines ways to provide safe pedestrian and bicycle access along the canal greenway while promoting historic awareness. The County envisions that the historic canal route will be followed wherever possible. Alternate routes are identified to bypass inaccessible sections of the canal. Spur routes are identified to access public and private destinations beyond the canal greenway including other trail systems, historic sites and other public attractions. These destinations may also include bus stops and rail stations, residential neighborhoods, business districts, community facilities such as schools, government offices, and other major employment and activity centers. The plan describes general project implementation strategies, with more detailed information to facilitate project funding, design and approval efforts in realizing



stranded people who came to pass the time of day by watching the boats lock through.



Introduction

New Village
Store at end of Lock 7 West sold goods to boatmen. The lock was known as "Gardner's Lock" and also "Fresh Bread Lock."



Port Murray
Canal boats could unload directly into warehouse at Perry's Store.

An empty boat is returning west to Philadelphia for another load. Bridge in foreground is similar to canallock bridges of the Delaware Division Canal in Pennsylvania.

THE MORRIS CANAL
1824-1924

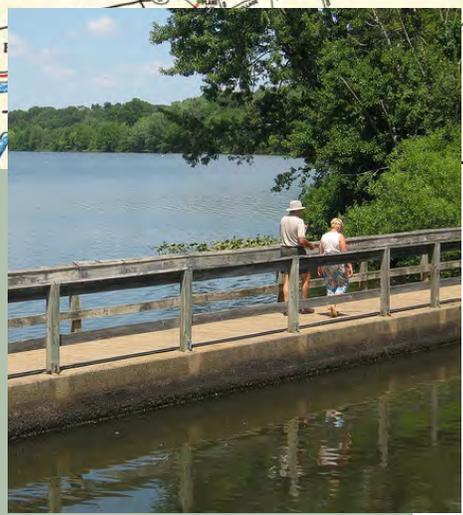
LENGTH - 102 MILES SUMMIT HEIGHT
DISTANCE - 60 MILES FROM HUDSON - 514 FEET
STRAIGHT LENGTH FROM DELAWARE - 260 FEET

LOCKS - 34 INCLINED PLANES - 23

CONCEIVED BY GEORGE MACCULLOCH

MACCULLOCH HALL HISTORICAL MUSEUM
MORRISTOWN, NJ

MORRIS CANAL
 LOCK
 INCLINED PLANE



A segment of the East Coast Greenway in Princeton, NJ that crosses over Carnegie Lake. The greenway is a work in progress, but already spans over 2500 miles. It aims to form a continuous trail linking cities from Maine to Florida.

Respond to the county and municipalities' recognition of the need for a contiguous trail system or greenway

Residents have expressed interest in a contiguous public recreational and heritage-focused greenway within Warren County. The absence of such amenities has been documented in the master plans of nearly every municipality through which the Morris Canal passes. Representatives of the public consistently express a desire for a safe route to school and other public facilities that serve both recreational and educational needs. The connection of these disparate canal-related and recreational sites via the canal greenway would begin to fulfill this need. It would also work to improve the continuity of the Canal's educational experience by clarifying the message about the canal's central role in the industrial and transportation history of New Jersey.

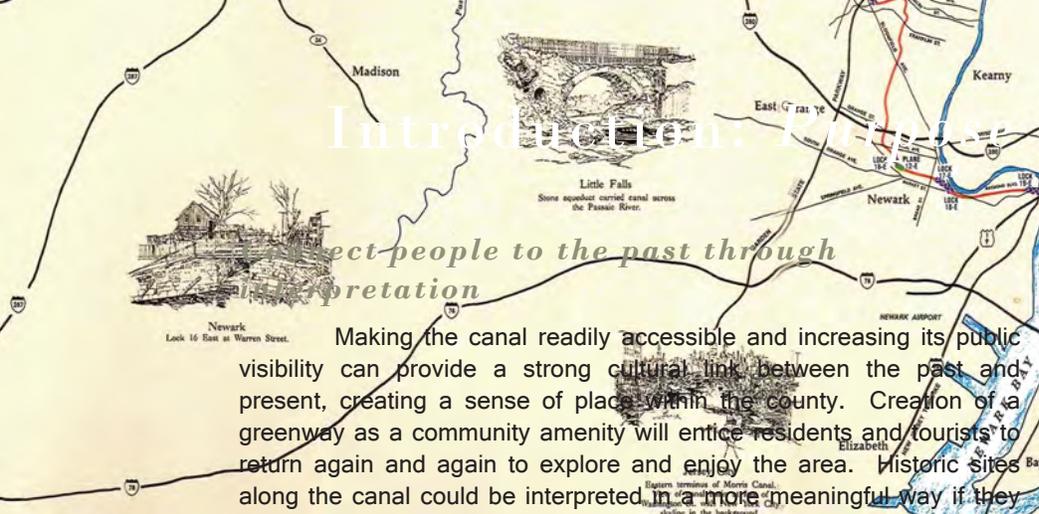
Promote eco-tourism and strengthen local economy

The greenway project represents an opportunity to bring tourists to the region and to provide a recreational and educational amenity for residents. Creating an accessible canal trail will create promotional opportunities for businesses, canal-related resources and events. It will also create opportunities for new businesses to focus on the greenway as a unique market niche that did not exist before. The greenway would provide a link between local businesses and amenities, both conceptually and physically, stimulating further cooperation between greenway supporters and business owners. Ultimately, the hope is that by connecting historical sites, recreation opportunities and other amenities for residents and tourists, sections of the Morris Canal Greenway will become a hub of activity, like a town's Main Street, attracting commerce, small businesses and services to an exciting living, working, learning and recreating environment.



Children engaged with a model of a lock

Introduction: Interpretation



Interpretation
 Lock 16 East at Warren Street.

Making the canal readily accessible and increasing its public visibility can provide a strong cultural link between the past and present, creating a sense of place within the county. Creation of a greenway as a community amenity will entice residents and tourists to return again and again to explore and enjoy the area. Historic sites along the canal could be interpreted in a more meaningful way if they were considered within the context of the canal linking these sites by a greenway trail. Connections to local businesses and amenities will encourage visitation to these important sites, as will expansion of the greenway's use. This audience could be expanded by integrating new technologies for interpretation and by expanding appreciation of the canal's importance to future generations.



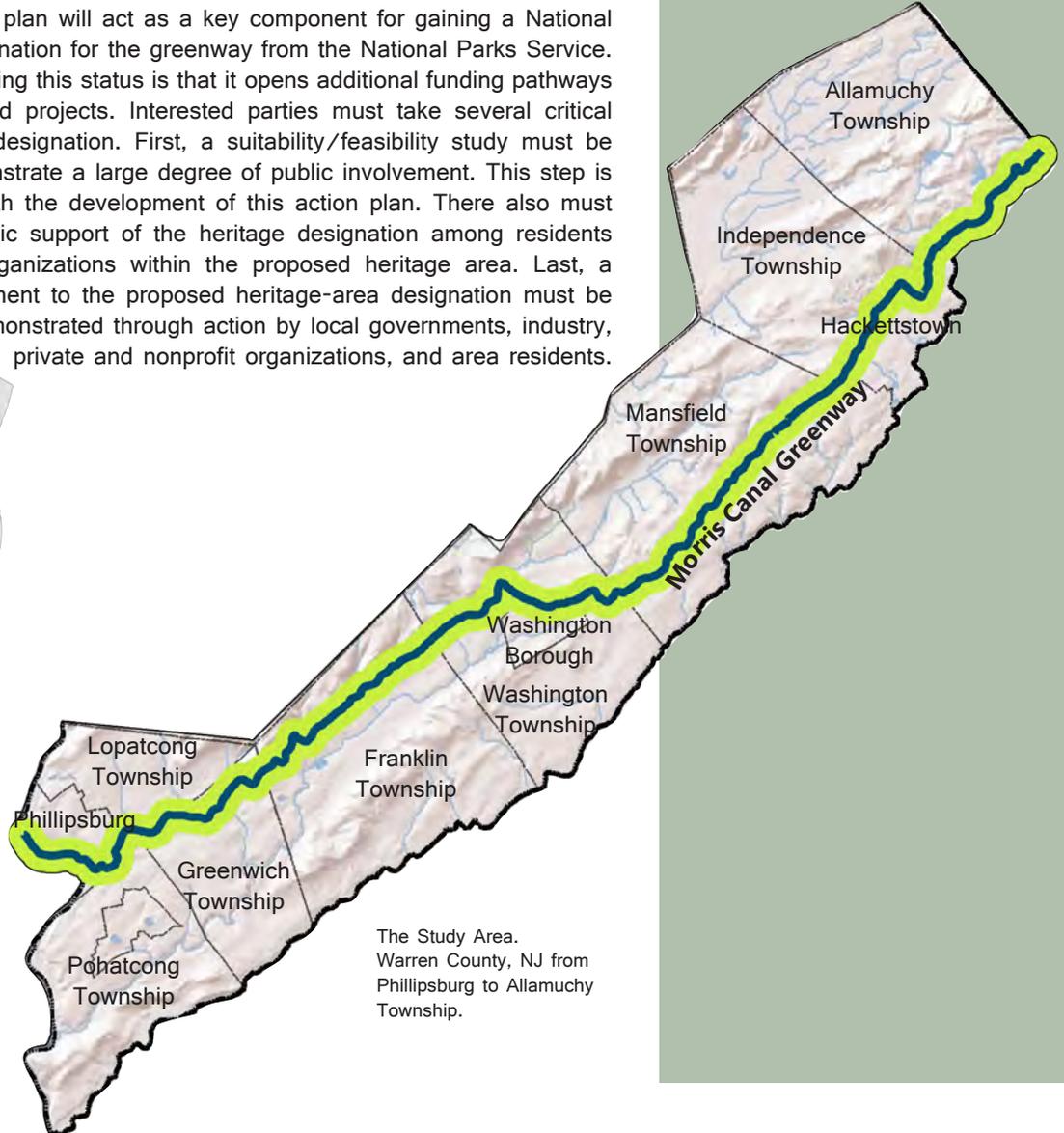
Signage at Bread Lock Park indicating the location of Lock 7 West

Attain National Heritage Corridor

This action plan will act as a key component for gaining a National Heritage Area designation for the greenway from the National Parks Service. The benefit of attaining this status is that it opens additional funding pathways for greenway related projects. Interested parties must take several critical steps to gain this designation. First, a suitability/feasibility study must be conducted to demonstrate a large degree of public involvement. This step is largely complete with the development of this action plan. There also must be widespread public support of the heritage designation among residents and all involved organizations within the proposed heritage area. Last, a commitment to the proposed heritage-area designation must be demonstrated through action by local governments, industry, private and nonprofit organizations, and area residents.



The Morris Canal in Warren County within the context of New Jersey.



The Study Area. Warren County, NJ from Phillipsburg to Allamuchy Township.

Introduction : *A Brief History*

A Brief History of the Morris Canal

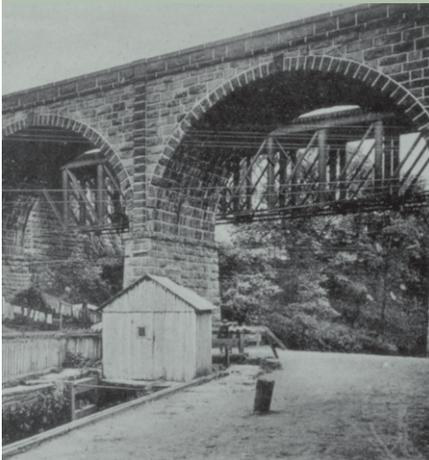
In 1821, many of the then 24 U.S. states were separated from one another because of poor transportation arteries. Because roads were not always suitable for heavy transportation, hauling by wagon was expensive and slow. In place of roads, canals were able to provide a more viable means of transportation to fuel growth.

In New Jersey, Morristown businessman George P. McCulloch, brought together a group of citizens, including Governor Isaac Williamson, to propose what would become the Morris Canal. Under the direction of Ephraim Beach, a well-known canal engineer, and consultant James Renwick, professor of natural and experimental philosophy at Columbia University, surveys were conducted completing a report recommending that the state build the canal. Although the state legislature had approved the commission and funds to study the feasibility of a canal, in the end the state did not build it. Private investors did. As 1824 came to an end, the legislature passed an act incorporating the Morris Canal and Banking Company to form an artificial waterway capable of navigation between the Passaic and Delaware rivers. Twenty thousand shares of stock raised \$2 million in capital — \$1 million for building the canal and \$1 million for banking privileges. One provision of the charter was that in 99 years the state could take over the canal.

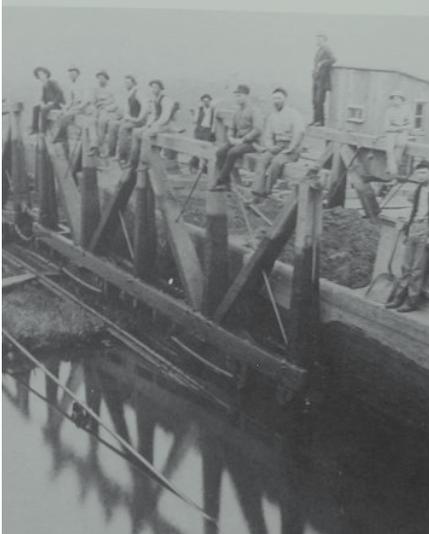
By September 1825, 30 miles were under contract with 700 men digging the canal bed. Construction of the locks and inclined planes began later. In 1826, 1,100 men worked on the canal and construction was divided

into sections that were contracted separately. In 1827, work began at Lake Hopatcong, or Great Pond as it was known then. Compared to other canals, the Morris Canal had to do quite a bit of climbing to go from the Delaware River to New York City. From Easton, the canal climbed step by step from one plateau to another and across lakes and rivers until it reached the Lake Hopatcong area, its summit level. From there, it descended to tide level at Newark. Locks overcame small changes in elevations, and inclined planes, used for the first time, overcame changes in elevation greater than 20 feet.

On November 4, 1831, the first trip from Newark to Phillipsburg on the 90-mile canal was completed in about five days. In 1836, an 11.75-mile extension to Jersey City was added, making the main line of the canal 102.15 miles long. When all the navigable waters, including other feeder canals controlled by the canal company were combined, the full waterway covered 109.26 miles. Within this distance were 23 inclined planes and 34 locks consisting of feeder, outlet, tide, guard, and lift locks.



Canal near Port Colden with Plane 6 West in background
Photo courtesy of NJ State Archives



Introduction : *A Brief History*

From 1855 on, Pennsylvania coal was the main commodity carried on the canal. However, grain, wood, cider, vinegar, beer, whiskey, bricks, hay, hides, iron ore, sugar, lumber, manure, lime, and many other goods were also transported. During the decade from 1860 to 1870, canal operations were profitable. And canal business prospered, as did the surrounding region, which saw growth in population and industry.

Unfortunately, the canal became a victim of progress. While canals, including the Morris, enjoyed growth in tonnage, railroads increasingly encroached on canal business. Even though the Morris Canal transferred east-bound shipments of coal from the Delaware, Lackawanna and Western Railroad between 1856 and 1870, the maximum of 146,359 tons in 1867 dropped to 80,977 tons the following year and disappeared altogether after 1870. The loss of coal business to the Delaware, Lackawanna and Western Railroad amounted to about 34.4% of the entire coal business transacted by the Morris Canal at that time.

It would take another 31 years, though, before the legislature would pass a resolution on March 31, 1903, to investigate and recommend legislation to abandon the canal. As expected, the study commission reported there was no longer an economic reason to keep operating the canal and recommended abandoning it. A plan for abandonment was sent to the legislature in 1905, but no action was taken. In 1912, another commission report said to abandon the canal, but again, the legislature did nothing. In February 1918, the Morris Canal and Banking Company and the Lehigh Valley Railroad filed a bill in court to keep the North Jersey District Water Supply Commission from building the Wanaque Reservoir to supply Newark and nearby cities with water. The canal company contended that water diverted from the Wanaque and Pompton Rivers would render it impossible to operate the canal. The canal company won its case prohibiting diversion of water. However, this decision was unpopular in the eyes of the public and key canal opponents, providing them with the additional support needed to seal the fate of the canal.²

On March 12, 1922, the legislature created a commission tasked with transferring the Morris Canal to the state. Eight months later, on November 29, 1922, the state of New Jersey acquired the canal with the exception of property within the town limits of Phillipsburg and Jersey City. In 1924, a bill provided that the Morris Canal and Banking Company continue as a corporation holding the property as trustee for the state, that members of the Board of Conservation and Development be made directors of the corporation. This meant that operation of the canal would end, that Lake Hopatcong, Lake Musconetcong, Cranberry Lake, Bear Pond, Saxton Falls, and Greenwood Lake be retained for public use, and that remaining property be sold.³



Photos courtesy of canalsocietynj.org

² Transcripts of Testimony in Chancery, Morris Canal and Banking Company v. North Jersey District Water Supply Commission 1920

³ Lee, James. "Morris Canal – A Brief History." I Dig The Morris Canal

Introduction : *A Brief History*

Why Tell the Morris Canal Story?

The Morris Canal is among 41 places listed in the National Register of Historic Places in Warren County. Each of these places tell stories about the people who lived in and “grew” the county. These historic places tell stories about transportation, architecture, engineering, commerce, politics, community planning, industry, education, religion and more. They tell stories about what challenged and inspired people’s lives. Today, they inspire newer generations of historians, artists, engineers, and others seeking to learn from and apply the past to the present by reading about and examining the artifacts we preserve.

Today, people who time their fast-paced lives by the minute would be vexed by the slow-moving Morris Canal. People don’t know what it was like to live and work in the early 1800s, before trains were introduced, when waterways, including canals, were the transportation highways that helped build America. Today, canals, like other historic sites, are a reminder of that slower past. Boats left dock only when full and moved very slowly. It took five days to travel from Jersey City to Phillipsburg. Canal water sometimes became too low during periods of summer drought, stranding boats, drying the canal prism, and potentially damaging the canal lining so that cracks allowed what little water there was to escape. On the other hand, in winter the water level could be too high. Flooding could wash away embankments, cover locks, and make access difficult. And if the water froze, navigation was over for the season.⁴ Life on the Morris Canal was a constant struggle against the elements.



“Boy with mules pulling boat,” painted by Richard L. Schisler

In addition to telling these stories of trial and tribulation, the Morris Canal represents a valuable historical record of canal engineering and the people who built it. Construction and maintenance were accomplished by men and animals following designs dating to Roman times. Canals were and still are complex engineering feats.

What still sets canals apart today from other civil engineering projects is that every canal has a water budget. Fulfilling the two most important requirements of operating a canal, which were to obtain and maintain an adequate supply of water for the high summit level and to ensure that the canal held water and did not leak - were ongoing engineering issues. Water was lost by leakage and evaporation and when every boat passed through a lock or plane. Because water was generally supplied from the canal’s summit level, the summit location and control of the available water sources were some of the most important factors in canal design. Designers of the Morris Canal recognized the importance of a dependable water source and routed the canal to connect to Lake Hopatcong, one of the largest lakes in the state, in order to secure that critical resource.



“Morris Canal, Inclined Plane 9 West, Port Warren, New Jersey - Morris Canal Boat #795 staring up the inclined plane,” painted by Richard L. Schisler

⁴ Notes on Canal History and Engineering <http://mysite.du.edu/~jcalvert/tech/canhist.htm>

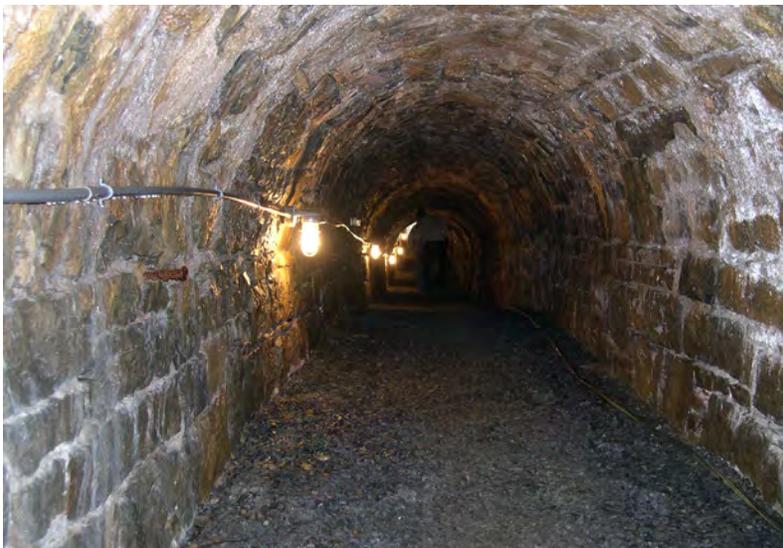
Introduction : *Telling the Story*

Locks, too, were essential for cross-country canals. Without locks, there would never be enough water to allow passage through changes in elevation. The canal locks operated just as they do today wherever boats and ships must move from one level to another such as in the well-known Suez, Erie and Panama canals. A lock consists of a chamber that can be filled or emptied so the water level coincides with either the lower or higher water levels in the canal on either end of the lock.

What distinguished the Morris Canal from other canals such as the Delaware and Lehigh canals in Pennsylvania was the use of inclined planes, which were designed to overcome changes in elevation that could not be achieved efficiently by locks alone. Instead of using water to raise or lower a boat in a lock, boats were loaded onto wheeled cradles or “trucks” that were then winched (by cable) out of the water, up an inclined plane, and over the plane’s crest before being lowered down a short incline into the next canal level. When boats travelled in the opposite direction, the process was reversed. At first, power for hauling and lowering boats was supplied by water wheels, but these were later replaced by water-powered turbines.⁵



Visitors enjoy a tour of Bread Lock Park



Looking up the tail race towards the Scotch turbine at Plane 9 West

The proximity of the Morris Canal to other historic resources in Warren County - such as Shippen Manor, the village of Hope, and the historic districts in Hackettstown - should be realized as a significant and unique resource for the heritage tourist. For many preservationists and heritage tourists, preserving artifacts and structures is justified in its own right, but many Warren County residents and the general public do not see the value of spending tax dollars on preservation of the canal. Despite best efforts to

⁵ <http://www.catskillarchive.com/rrextra/abnjmc.html>

Introduction : *Telling the Story*

Select Canal Related Terms

Aqueduct: a conduit or artificial channel for conveying water.

Aqueduct bridge: a structure that carries a canal over a river, stream, or valley.

Berm: a side bank of a canal, also known as the heelpath.

Berm side: the bank of a canal opposite the tow line.

Culvert: a traverse drain or other conduit channeling water; feed culverts are hollow spaces, or tunnels, within lock walls through which water for filling or “feeding” a lock and for emptying it is conducted.

Dam: a structure built across a watercourse to maintain water levels and confine and keep back flowing water (a fixed dam is a permanent structure without movable parts; a movable dam is one which can be set up or thrown down as desired).

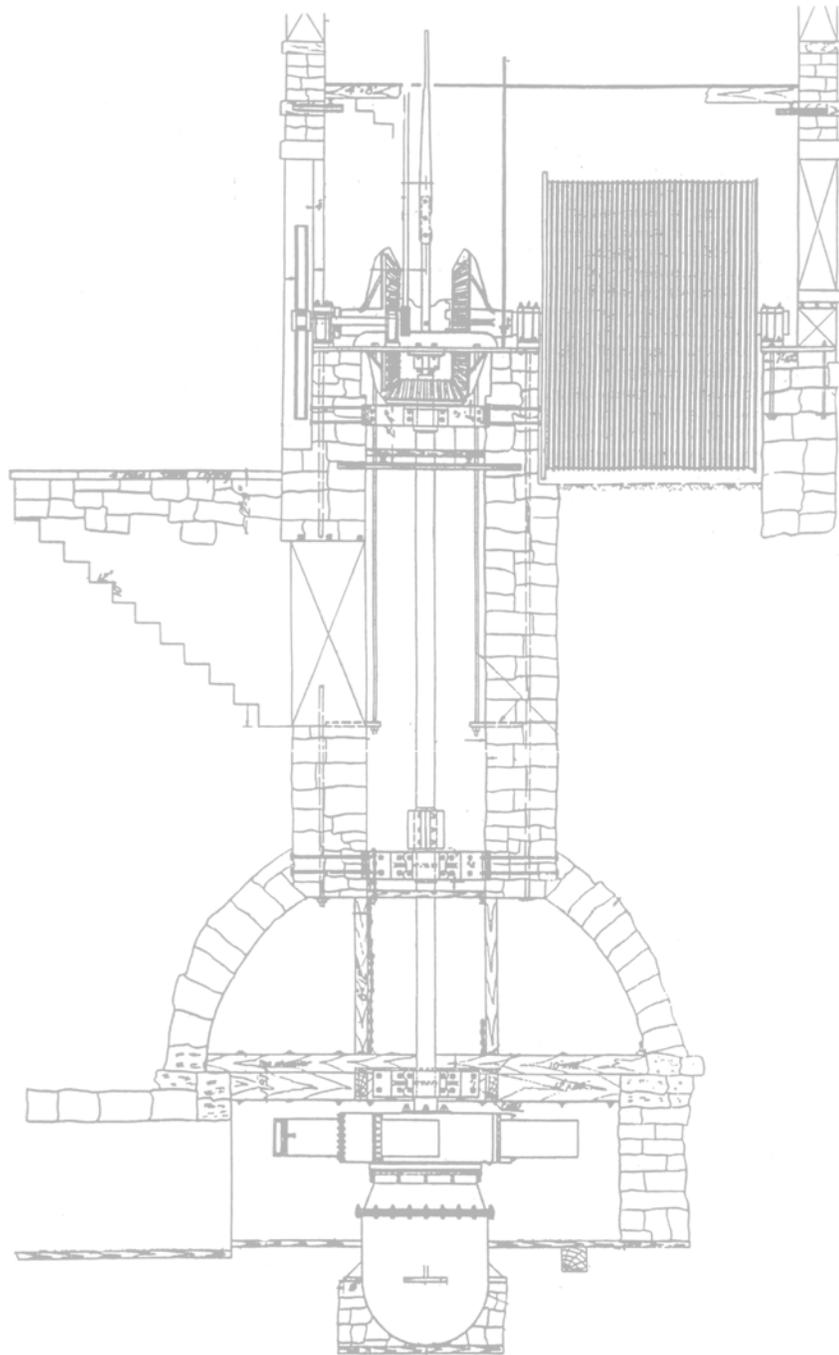
Feeder: diverted stream water used to supply water to maintaining the canal level.

Guard lock: a lock at the mouth of a basin or a lock for preventing flooding, usually where the canal joins a natural water course.

Hydrograph: a chart recording the changing level of water, as in a reservoir, stream, or river.

Incline plane: a device developed to haul canal boats over hills. The boat was strapped to a rail car and pulled over the hill on tracks.

develop quantitative measures of preservation benefits, projects like the canal greenway are challenging to quantify in this way. Historic preservation involves much more than saving and restoring old buildings and historic sites; externalities such as economic, cultural, environmental, and educational benefits of historic preservation all play a significant role. Uncovering the potential positive impacts of the canal greenway can help develop public support ensuring that they remain a significant part of their community while satisfying one of the goals of this 25-year Action Plan.



Historic engineering drawing of the Scotch turbine at Plane 9 West

Introduction : *Current State*

Current State of the Canal and its Resources



Port Colden Manor is a historic canal related structure in need of significant repair.

Significant portions of the historic course of the Morris Canal through Warren County remain intact. Additionally, there have been many recent endeavors to restore key historic sites because of great interest and enthusiasm in the county. Many of the restored historical features enjoy extensive visitation during spring and fall tours conducted by the Morris Canal Committee. Such features include Saxton Falls, Florence Kuipers Memorial Park in Hackettstown, Port Murray Boat Basin, Bread Lock Park and Inclined Plane 9W. Even with the preservation and promotion efforts of these key features, the status of much of the remaining canal resources remains in flux. Select portions of the canal and towpath have been filled or destroyed in favor of farmland. Other parts were lost to urban in-fill and suburban development. But for the encroachment of surrounding woodlands, other parts exist much in the way they did when the canal was active. In fact, parts of the canal are still watered, some serving as stormwater management features, making them viable candidates for pressing them back into greenway use.

Similar varying condition can be seen in canal structures. Many of the locks and inclined planes that once allowed the Morris Canal to overcome more than 900 feet of elevation change were “made safe”, between 1923 and 1929⁶ during the canal’s final decommissioning. These actions typically included destruction and sometimes burial for the safety of surrounding communities. Destruction of some structures, such as Plane 7W along

⁶ Maps of the Morris Canal, Western Division: Phillipsburg-Lake Hopatcong, Gary E. Kleinedler, page 4

Land line: that part of a canal which is an artificial channel--not in a river, lake or natural water bed.

Lift: the distance or extent to which water in a canal lock rises.

Lock: an enclosure with gates at each end used in raising or lowering boats passing from one level to another.

Lockage: the passage of a boat or boats through a lock; the raising or lowering of a boat from one water level to another.

Prism: the volume of water in a stream or waterway in motion considered as a shape of chosen length in conjunction with the cross section of the channel.

Spillway: a passageway for surplus water from a canal or reservoir.

Summit level: the highest level or elevation reached.

Towpath: path along one bank of a canal where teams of men and animals worked to pull boats.

Waste weir: an overflow, or weir, for the escape of surplus water from a canal or reservoir; a dam-like structure along the canal berm with openings to control the water level.

http://www.archives.nysed.gov/a/research/res_topics_trans_recrd_shtml

Introduction : *Approach*

the aptly named Plane Hill Road in Washington Township, left only subtle evidence of their existence. Plane 6W, was partially destroyed because it was in the path of subsequent quarry operations that have since ceased. Although some structures were destroyed, others survive in some condition similar to what they once were. Lock 7W, the Bread Lock, was buried intact, ready to be unearthed and restored for educational interpretation when funds become available. Nevertheless, some structures such as Plane 9W and Lock 5W at Saxton Falls represent some of the best interpretative resources available today.

The final parts of the canal story lay in the historic and cultural resources related to the canal. The nature of these resources varies greatly.

Some canal stores, boat-captain's homesteads and lock tender's homes can still be found along the canal route and are in good condition, including the Plane 9W Tender's House or the old Port Colden brick School. Many of these structures share similarities in architecture and orientation to the canal and will reinforce the canal greenway user experience. Unfortunately, other significant buildings are suffering from years of neglect. Examples include Port Colden Manor, the Campbell House, and the Lock Tender's House for Lock 4W (known as Elsie's Tavern). All of these buildings are in need of immediate attention and stabilization. Sadly, other structures have been removed completely or surviving structures have been repurposed and renovated such that little of their historic value remains.



Lock 4W and Elsie's Tavern
Photo courtesy NJ State Archives

Project Approach and Methodology

The Morris Canal 25-Year Action Plan was developed through a combination of public participation, physical inventory, and analysis techniques. The foundation of the public participation process involved the establishing a Technical Advisory Committee (TAC) consisting of the members of the Warren County Morris Canal Committee, representatives of the Warren County Planning Department, and other interested individuals. The TAC, with its intimate knowledge of the canal and adjacent communities, provided valuable background information and regular input on the project. Planning began with a kick-off meeting with the TAC to introduce the consultant team and discuss the project goals. The TAC provided the consultant team with a field view of the canal as part of a full-day tour consisting of stops at key features and walks along preserved sections of the canal towpath.

Introduction : *Approach*

TAC Meetings and Public Involvement

Monthly meetings were subsequently held with the TAC throughout the planning process. The initial meetings focused on developing a vision for the 25-Year Action Plan and discussing the opportunities and constraints associated with undertaking such an initiative. Input from the TAC and county planning staff steered the focus of the planning efforts and provided the majority of the guidance in crafting recommendations.

A series of four public outreach sessions were then held using various meeting formats to share the draft vision with the public and solicit additional input. The first session in the series was designed for a stakeholder audience consisting of County and Municipal elected and appointed officials representing the municipalities along the canal and representatives from the key agencies and organizations. A full list of invitees can be found in Appendix C.

These representatives served as a stakeholder committee to provide input early in the planning process and at key stages in developing the plan. The format of the stakeholder committee meeting consisted of a formal presentation of the scope of the 25-Year Action Plan, followed by a question-and-answer period. This meeting was successful in engaging municipal, state and county officials who represented the majority of participants at this event.

The second session in the series was intended to solicit ideas from four specific focus groups: businesses, nonprofit organizations, public schools, and local government, as listed in Table 2-1 . The overlap in representation at the stakeholder committee and focus group meetings was intentional to provide these entities with multiple outlets for providing input on the 25-Year Action Plan. The format of the session consisted of a formal presentation of the project scope followed by a roundtable discussion for each focus group to generate a free-flowing and spontaneous exchange of ideas. While the invitation list for the focus group session was comprehensive, attendance was heavily represented by public school and municipal officials.



A typical segment of the canal prism's at Saxton Falls remains



First Stakeholders Meeting in September of 2011

Table 2-1: Focus Group Invitees

Government and Planning Officials

- Warren County Agriculture Development Board
- Morris Canal Committee
- Warren County Board of Recreation Commissioners
- Municipal Officials
- Representatives of other Elected Officials
- Planning Boards
- Open Space Committees
- Environmental Commissions

School Officials

- Warren County Community College
- Centenary College Public
- Rutgers University
- Local School Districts and School Boards

Non-profit Groups

- Musconetcong Watershed Association
- Pohatcong Watershed Association
- Skylands Tourism Council
- Canal Society of NJ
- Friends of the NJ Transportation Heritage Center
- Highlands Project
- Youth Corps

Introduction : *Approach*

vision developed by the TAC. The meeting also incorporated informational displays of the vision and project scope with one-on-one discussions with the project team and TAC members, in addition to two activities for providing anonymous input. One activity required participants to place dots on a map indicating memorable places along the canal; another asked participants to write their thoughts about each element of the draft vision statement. The majority of participants at this event were people who live or used to live along or near the canal, had ancestors who worked on the canal, or who were especially interested in canal history or volunteering with canal preservation projects. Additionally, attending members were given the chance to provide general feedback on their perspective of the Morris Canal, its resources and the proposed greenway.

In addition to the focus group and stakeholder meetings, an on-line survey was distributed to solicit feedback from all property owners with a portion of the canal on or directly adjacent to their property. The intent of this survey was to judge the level of support for creation of a trail and greenway connections. The anonymous survey also allowed land owners to bring forth any concerns they would have should a trail be located near their property. Finally, the survey assessed the desire of a land owner to be involved in future greenway development activities.

The public involvement portion of the 25-year action plan finished with a second public meeting. At this meeting preliminary greenway and trail recommendations were shared with those in attendance. The intent of this meeting was to gauge the level of public support for many of the key project strategies developed by the TAC. Members of the public were also given the opportunity for input and feedback on the topic presented, as well as other topics they wished to discuss.

Further detail and the results of the public input portion of the 25-year action plan are provided in the Visioning and Public Process section of this report.



Tail race of Plane 9W

Review of Background Information

A wealth of background information pertaining to the canal, local history and land-use planning was collected in preparation for planning activities and field reconnaissance with the goals of: documenting and evaluating conditions of the canal; defining the limits of the greenway; and developing the recommendations included in this plan. Staff of the Warren County Planning Department provided copious documentation including state, county and municipal planning documents, and plans addressing previous, current and future canal preservation efforts. A full listing of the documents reviewed in preparation of this plan can be found in Appendix A. Review and evaluation of these documents provided a foundation for the remainder of the planning process and helped everyone understand resources and prioritize preservation activities. A particularly important reference was the detailed inventory of canal resources outlined in the 1983 Historic Preservation Survey of the Morris Canal in Warren County, New

Introduction : *Approach*

Jersey, prepared by Brian H. Morrell and his subsequent publication, *Historic Preservation Survey of the Morris Canal in Warren County, New Jersey (1987)*. These resources served as the basis for an updated survey and assessment of canal and related resources for the 25-Year Action Plan.

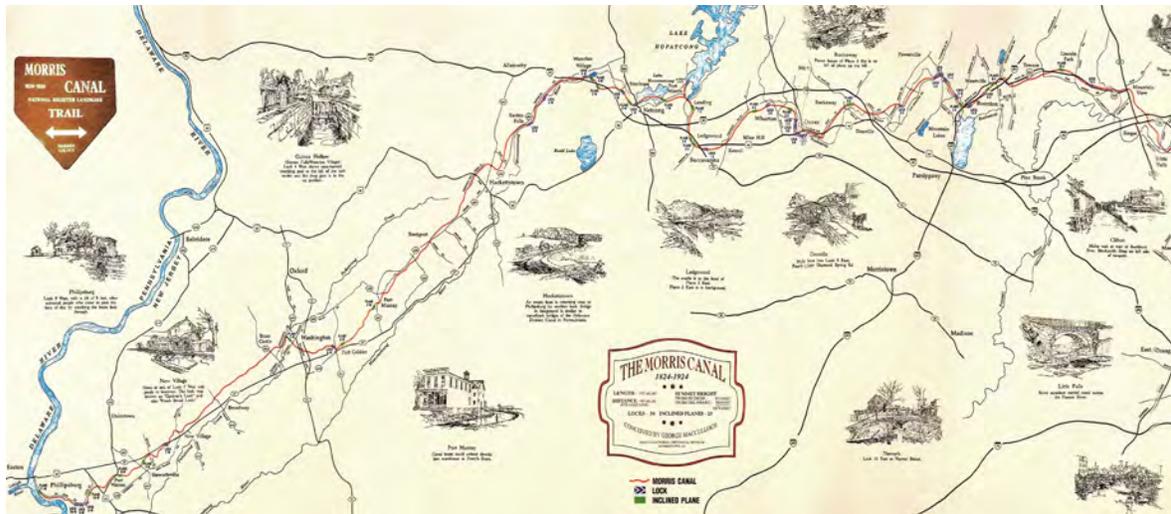
Coinciding with the review of this information, the planning team also reviewed the county's economic and demographic conditions to assess the potential for greenway-related economic development. The economic and demographic examination considered the existing demographics and trends within the municipalities surrounding the Morris Canal with those of other municipalities regionally. This analysis also compared the economic development efforts of other municipalities served by greenways and regional trail networks with the types of businesses potentially served by the Morris Canal Greenway.

The results of the inventory and analysis were used to identify recommendations for preserving, enhancing, interpreting and developing the greenway for a variety of public purposes.

Field View

Given the nature of the 25-Year Action Plan, it was critical for the planning team to spend a significant amount of time familiarizing themselves with the conditions and character of all parts of the greenway. As previously discussed, the project began with a guided tour of selected locations and highlights along the canal within Warren County. This tour began in Phillipsburg and continued along the length of the greenway to Waterloo Village. Along the way, stops include significant historic sites such as Bread Lock Park and Plane 9W. Stops also focused on ongoing and previously completed improvement projects similar to the Strykers Road Improvement Project and several sections of completed greenway trail. The tour served as an important overview of the length of the greenway, providing general context for the remainder of the planning process.

After gaining additional insight on the existing conditions, opportunities, and constraints existing along the greenway and possessing a better understanding of the vision and goals of the TAC, the team set out to develop a better understanding of existing conditions. Another goal of this field view aimed to better evaluate specific trail routing discussed with the TAC. Potential routes were evaluated based on their suitability for providing a safe and enjoyable trail experience; potential connections to historic, civic and commercial resources; current ownership status; and the routes' proximity to the historic route of the canal. The field view was completed over a period of three and a half days and generally moved from Phillipsburg to Allamuchy.



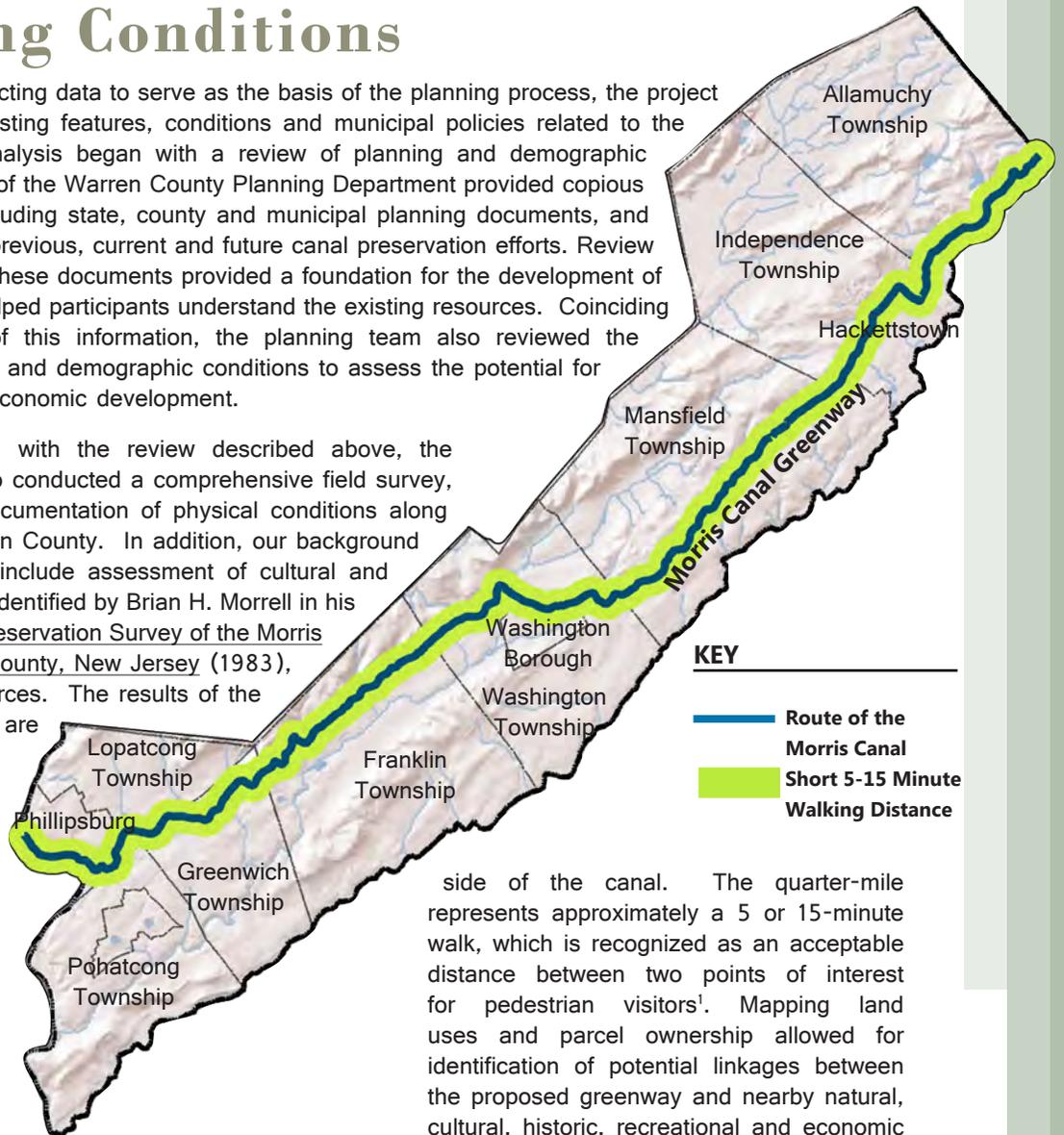
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Existing Features : Study Area

Existing Conditions

After collecting data to serve as the basis of the planning process, the project team analyzed existing features, conditions and municipal policies related to the Morris Canal. Analysis began with a review of planning and demographic information. Staff of the Warren County Planning Department provided copious documentation including state, county and municipal planning documents, and plans addressing previous, current and future canal preservation efforts. Review and evaluation of these documents provided a foundation for the development of the action plan, helped participants understand the existing resources. Coinciding with the review of this information, the planning team also reviewed the county's economic and demographic conditions to assess the potential for greenway-based economic development.

Coinciding with the review described above, the planning team also conducted a comprehensive field survey, including photo-documentation of physical conditions along the canal in Warren County. In addition, our background review work also include assessment of cultural and historic resources identified by Brian H. Morrell in his study, Historic Preservation Survey of the Morris Canal in Warren County, New Jersey (1983), and other key sources. The results of the analysis process are described below.



side of the canal. The quarter-mile represents approximately a 5 or 15-minute walk, which is recognized as an acceptable distance between two points of interest for pedestrian visitors¹. Mapping land uses and parcel ownership allowed for identification of potential linkages between the proposed greenway and nearby natural, cultural, historic, recreational and economic resources such as schools, parks, preserves, shopping districts, and heritage sites. Such connections can provide opportunities for children at nearby schools to safely access the canal for educational purposes and for people in adjacent parks to expand their recreational enjoyment with the greenway. By strengthening these linkages, opportunities for reciprocal relationships can evolve, and nearby destinations will bring users to the proposed greenway. In turn, the greenway will bring users to the nearby destinations.

Study Area

The overall study area for this project consisted mainly of the immediate area surrounding the Morris Canal for 33 miles through nine municipalities in Warren County. From south to north, these municipalities include the Town of Phillipsburg; Pohatcong, Lopatcong, Greenwich, Franklin and Washington Townships; Washington Borough; Mansfield and Independence Townships; Hackettstown and Allamuchy Township.

The immediate study area consisted of land directly adjacent to and within a quarter mile of either

¹ Regional Plan Association (1997). Building Transit-Friendly Communities: A Design and Development Strategy for the Tri-State Metropolitan Region (New York, New Jersey, Connecticut).

Existing Features : *Land Use*

Land Use

The canal, when operational, carved meaning into the surrounding landscape. This is still apparent today, from the names of towns and roads such as Lock Street in Phillipsburg to the small villages dotting its banks like Port Murray, Port Colden, Rockport and Waterloo Village which once served the needs of canal workers. The pristine yet varied landscape through which the canal greenway will pass is a great interpretive asset in and of itself. The proposed greenway's character will be shaped by land uses that travelers encounter along this historic route.

Warren County as a whole has a distinctly rural character with a great deal of active agriculture and is home to a number of large natural areas including Allamuchy Mountain State Park and Merrill Creek Reservoir. Several community parks such as Bread Lock Park and Meadow Breeze Park were preserved by the county and Washington Township. This largely agrarian landscape contains scattered small towns and villages that were formed in association with early settlements, local industry and historic transportation corridors such as the Morris Canal and the many rail lines that cross the county.

The canal traverses a rich patchwork of densely developed, suburban and rural landscapes as it crosses the county. More densely populated areas and small towns such as Phillipsburg, Washington Borough and Hackettstown feature tree-lined sidewalks and lively main streets. These areas will provide a variety of user groups with access to the greenway and nearby supporting services such as dining, lodging, shopping and other attractions. In contrast, Allamuchy, Franklin and Mansfield Townships are characterized by large stretches of farmland and wooded hills. Suburban developments of various ages in Greenwich, Independence, Pohatcong, Lopatcong and Washington Townships provide a transition between urban areas and countryside. Stunning pastoral views of preserved farmland and existing preserved areas will form a significant part of a greenway visitor's experience.



Existing Features : Description

General Greenway Description

Currently ownership of the canal is extremely varied. Of the 33 miles of canal in Warren County, 10.9 miles are preserved and owned by the municipalities, the county or the state.

- 5.9 miles of the canal have been preserved by Warren County through direct purchase ownership or easements.
- 2.9 miles have been acquired by state and local municipalities as open space or as part of a park.
- 2.1 miles are properties enrolled in farmland preservation programs sponsored by either the state or county government.²

The balance of the canal is held in various hands representing a tapestry of ownership, creating significant challenges to assembling a continuous, uninterrupted canal greenway. This study considered ownership in terms of state, county, municipal or privately owned land. Preserved farmland properties were also identified for their potential role in the visual and cultural landscape, as well as school properties to which linkages from the greenway could be made.

The planning team measured the distances of the greenway through each municipality and identified land uses within a 1/4 mile buffer, or comfortable walking distance, around the greenway trail. Of the municipalities in Warren County through which it travels, the canal right-of-way runs for the longest distance in Mansfield Township- about 7.1 miles or approximately 20 percent of the greenway's total length. Franklin Township enjoys 5.3 miles of canal, and Washington and Greenwich Townships will contribute about 3.5 miles each. Pohatcong Township is only brushed by the canal for a third of a mile. The canal route divides Hackettstown and Independence Township on the Township's side of the line, so their mileage overlaps.

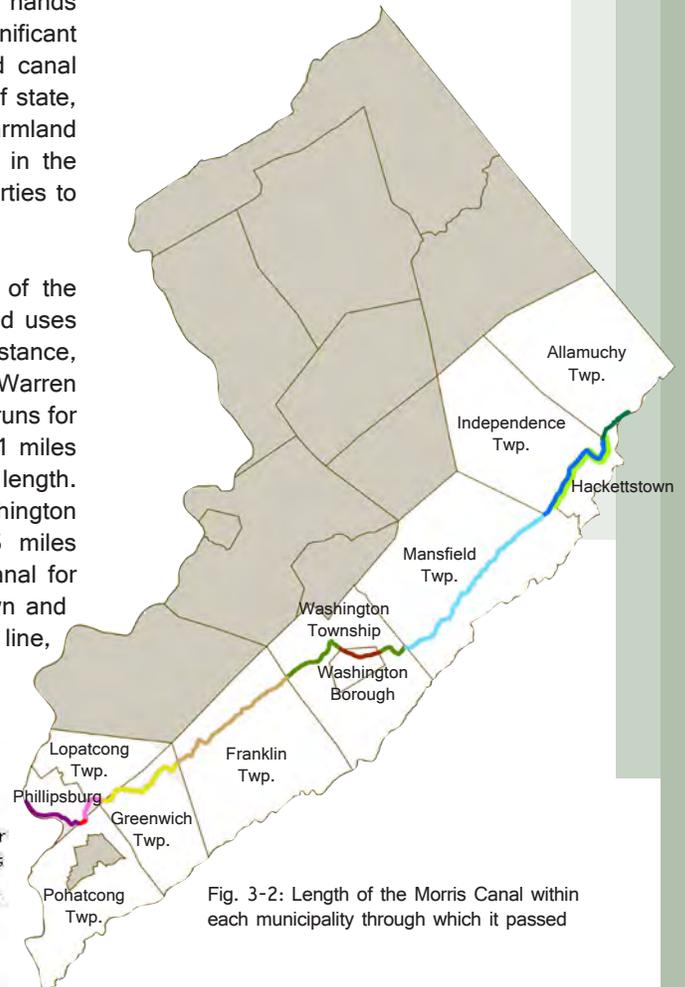


Fig. 3-2: Length of the Morris Canal within each municipality through which it passed

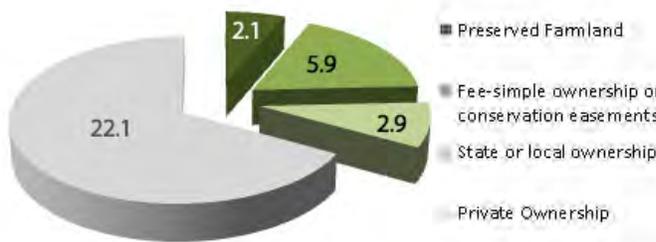


Fig. 3-1: Protection status of miles of land adjacent to the proposed greenway

²Actual distances measured in ArcGIS using data from Warren County – Morris Canal Properties Inventory

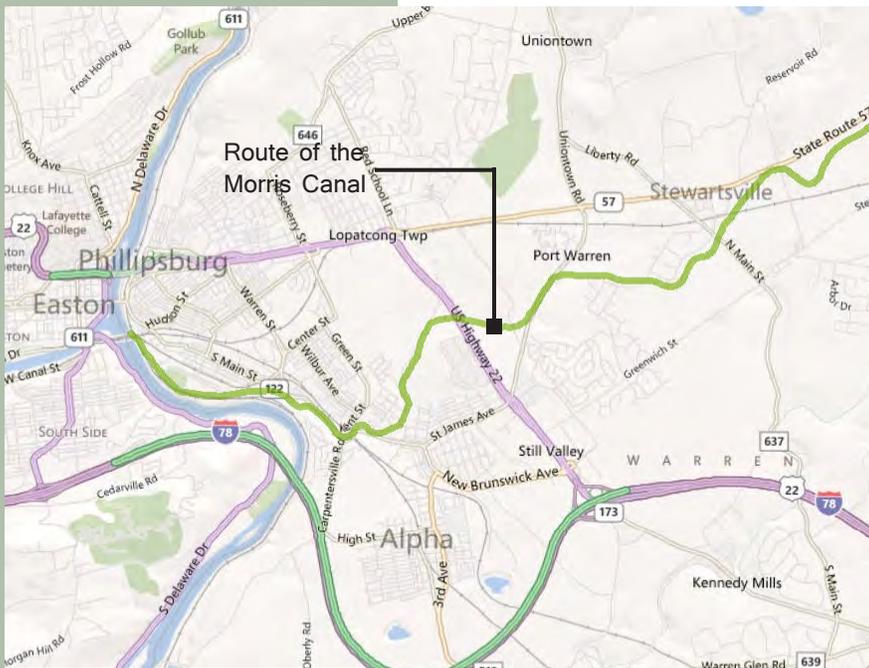
Existing Features : *Description*

Phillipsburg

The historic route of the canal begins at the Morris Canal Arch in Phillipsburg where one can find restaurants, shopping and services. Passing through the 5-acre Delaware River State Park, the canal cuts through parts of the downtown business district for two and a quarter miles. Along this stretch nearly 24 acres of municipal land have adjacencies with the canal, including small parks such as Mill Pond and Walters Parks. An additional six acres of municipal park land is accessible within a quarter mile of the canal.



Green's Bridge and Valley View Historic District in Phillipsburg



The route of the Morris Canal in Phillipsburg, Pohatcong, and Lopatcong

Lopatcong Township

East of Phillipsburg in Lopatcong Township, the canal runs for 1.2 miles past Inclined Plane 10 West, Lock Street, and the Valley View historic district with its concrete houses that were built for workers at Thomas Edison's nearby concrete factory. Bisecting this portion of the canal is Route 22. Despite having only 1.2 miles or 3.4 percent of the greenway's total length, over 22 percent of the county-owned land along the entire greenway falls within Lopatcong township.

Greenwich Township

Between Route 22 and Strykers Road, the canal crosses into Greenwich Township, which contains 3.3 miles of the canal's length in Warren County. This

Existing Features : *Description*

municipality has about 80 acres — or about one third — of the total acreage of county-owned land abutting the canal. Plane 9W, an interpretive node along the canal, will be important in defining this section of greenway. Also, a 100-acre parcel of preserved farmland within a quarter mile walk of the trail could potentially provide a pastoral vista with the creation of a side trail for users who like to deviate from the path. Through much of Greenwich, as well as Franklin and Washington Townships, the canal nearly parallels Route 57, also known as the Warren Heritage Scenic Byway. This historic road was built on the bed of the former Morris Turnpike, and with its scenic byway designation, it provides access to a spine of historic, cultural and recreational opportunities.

Franklin Township

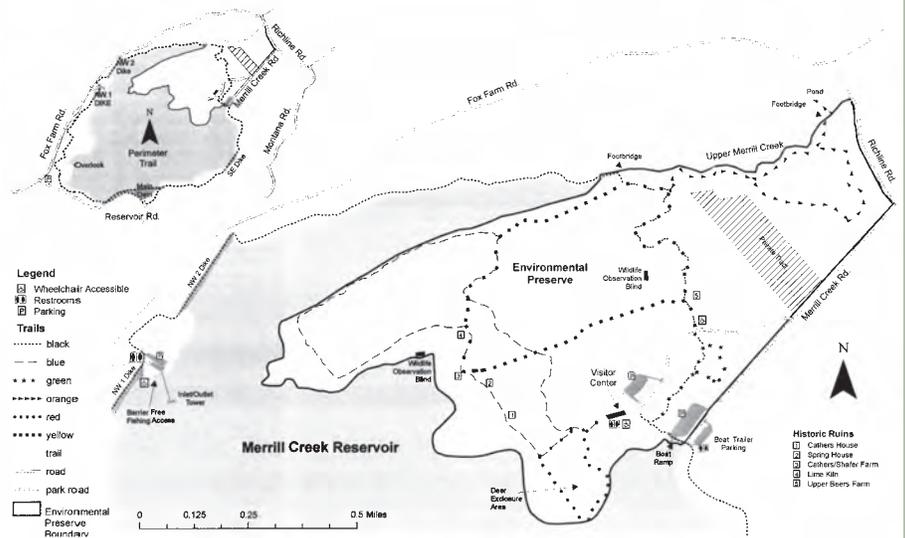
Moving eastward, Franklin Township is home to about 5.25 miles or 15 percent of the route. The route of the canal passes through 130 acres of land owned by Warren County - nearly half of the county-owned land along the canal - and 150 acres of preserved farmland which represents one-fifth of all the preserved farmland along its route. The canal's route through this municipality traverses through Highlands Preservation Area. Bread Lock Park, an already well-developed recreation and interpretive center, will be a destination along the greenway in this section. This pastoral and woody stretch of the canal passes few developed areas. North of the canal's path through the township lies Merrill Creek reservoir, a 650-acre reservoir surrounded by a 290-acre environmental preserve and 2,000 additional acres of woods and fields. The recreational resources of the reservoir fall within the quarter-mile buffer and could easily be accessed via a side trail. A linkage to such a vast natural area with a wealth of environmental resources would provide visitors with many more recreation opportunities than just the greenway itself, including boating, fishing, hunting, hiking and organized environmental education activities.

Washington Township

Nearly four miles of greenway passes through Washington Township, which includes 35-acre Meadow Breeze Park, offering many active recreational opportunities. Nearly 80 percent of the municipally owned lands directly adjacent to the canal path are within Washington Township. Linkages could be made to 142 acres within a quarter mile of the greenway including to nearby Brass Castle Elementary School; Roaring Rock Park, which features trails and plans to have cross-country skiing in the future; and

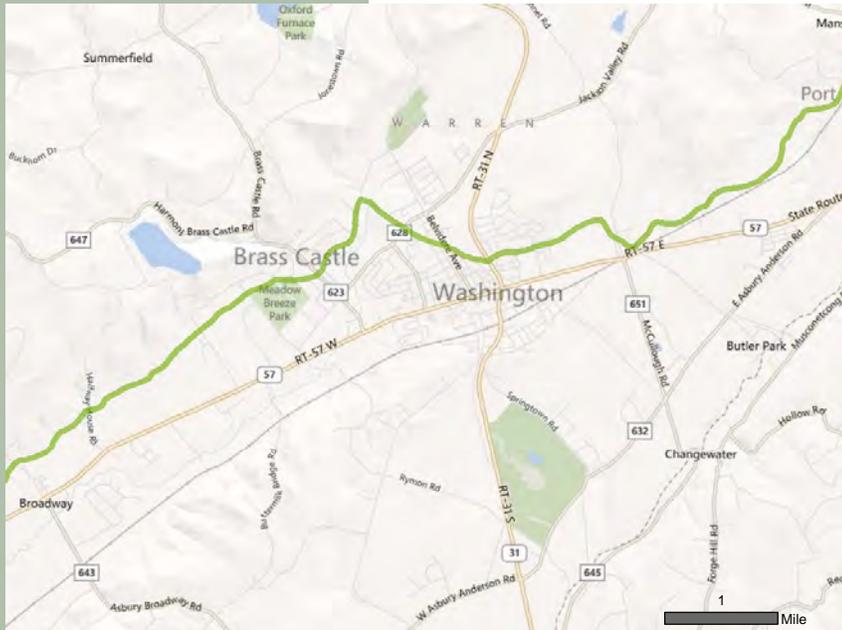


Strykers Road pedestrian improvements



Trail map of nearby Merrill Creek Reservoir

Existing Features : *Description*



Washington Township and Washington Borough contain many important opportunities for making linkages with the proposed greenway including Meadow Breeze Park, multiple schools, and downtown Washington Borough.

the Port Colder Elementary School. Washington Township also contains nearly 30 percent of the county's total preserved farmland area and is home to Brass Castle Elementary School, one of the many schools adjacent to the proposed canal greenway. Of the 1,550 acres within a quarter of a mile walking distance of the greenway through this township, 414 are either municipally owned, preserved farmland, or school property .

Washington Borough

With its tree-lined streets, small shops, restaurants, and historic houses - Washington Borough is surrounded by Washington Township and serves as a town center for the surrounding area. Land in the borough is primarily residential and commercial, with the exception of a short section adjacent to Warren Hills Middle School along the proposed route, which passes through the borough for about 1.4 miles before re-entering the township. There is little publicly owned land along the canal greenway or in its immediate vicinity.

The historic house of Joseph Campbell, the first African-American canal boat captain, is in the borough. Commercial activities in the borough will stand in



The Joseph Campbell House in Washington Borough is in need of restoration but could become an important interpretive node along the greenway.



The narrow small-town streets of Washington Borough are pedestrian-friendly and would benefit from a mutually beneficial relationship with the greenway.

contrast with the rural character of the majority of the greenway here and bring patrons to the shops. Six schools are found within a quarter mile of the greenway, all either in Washington Township or Washington Borough . Providing safe routes between the greenway and school can help foster student's awareness of the canal, encourage outdoor play and exercise, and

Existing Features : *Description*



Beautiful pastoral views from the Rockport Pheasant Farm, typical in Mansfield Township.
Photo courtesy www.state.nj.us/dep/fgw/rockport.htm

can help reduce reliance on the automobile or school bus for transportation to and from school. Close ties with the Morris Canal would also provide an excellent curriculum opportunity, helping students relate to their local history.

Mansfield Township

To the east, Mansfield Township features more than 7 miles of greenway. This is the longest stretch of greenway under municipal control. The entire route of the canal in this municipality passes through Highlands Preservation Area. With many existing segments of contiguous trails and historic sites along the route, this section of greenway is important for its relationship to new land acquisition and linkages. Mansfield Township has 19 percent of the state-owned land adjacent to the greenway and 17 percent of the preserved farmland. Within a quarter mile of the greenway, over 900 acres of publicly owned land are accessible: 492 acres of the state-owned Rockport Game Farm, 56 acres of Warren County property, and 105 acres of the township's property, which includes sports fields and managed trails at Mansfield Township Park. Located across Route 629 are the Comcast Sports Fields, which provide additional opportunities for active recreation. Between the Port Colden and Port Murray historic sites, the route traverses through the historic brickyard property and vast, unbroken tracts of pastoral scenery.



Port Colden United Methodist Church

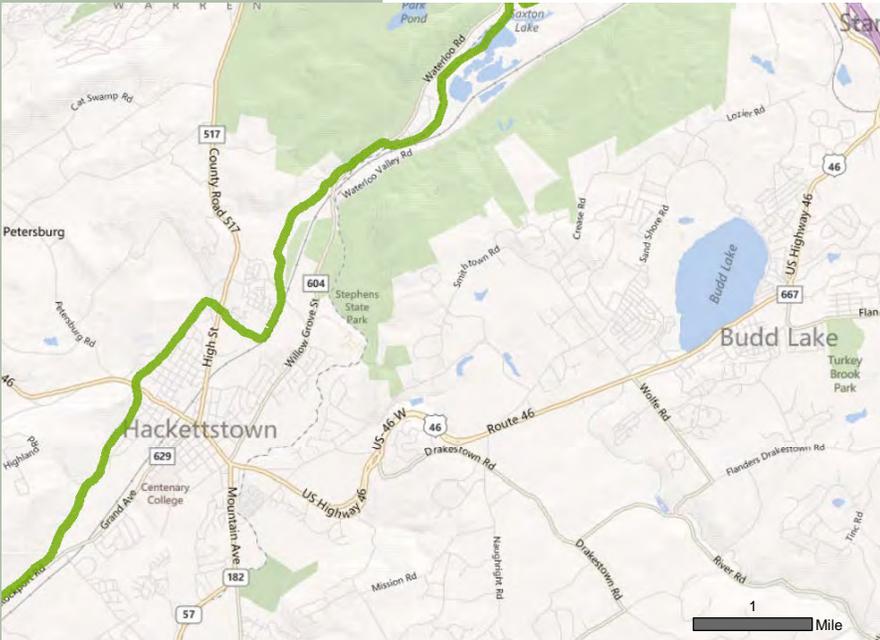


Remnants of a turning basin along a completed section of trail in Port Murray

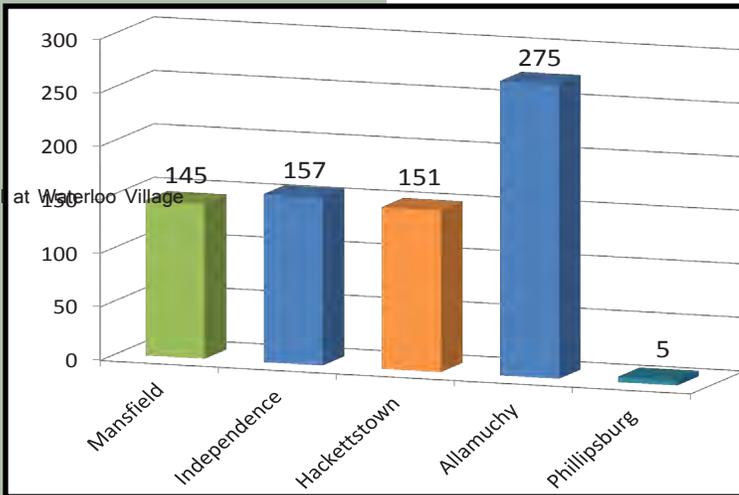


The historic brickyard in Mansfield Township

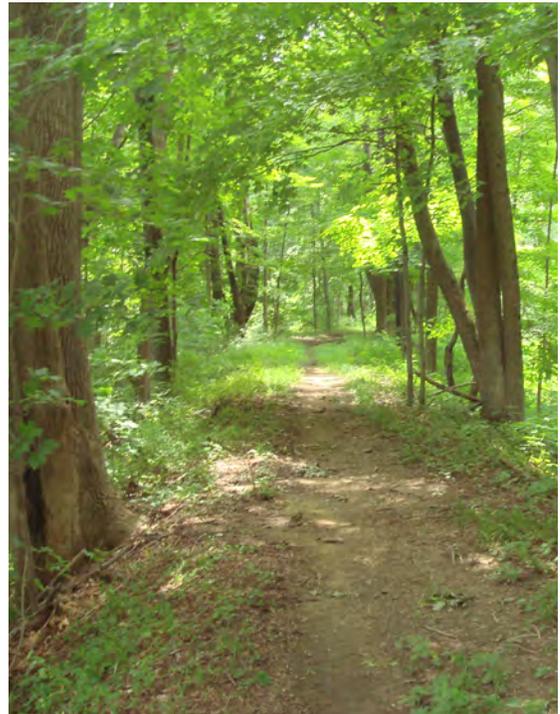
Existing Features : *Description*



Hackettstown is home to several parcels of prime open space, as well as a transportation node, to contribute to the greenway's mission.

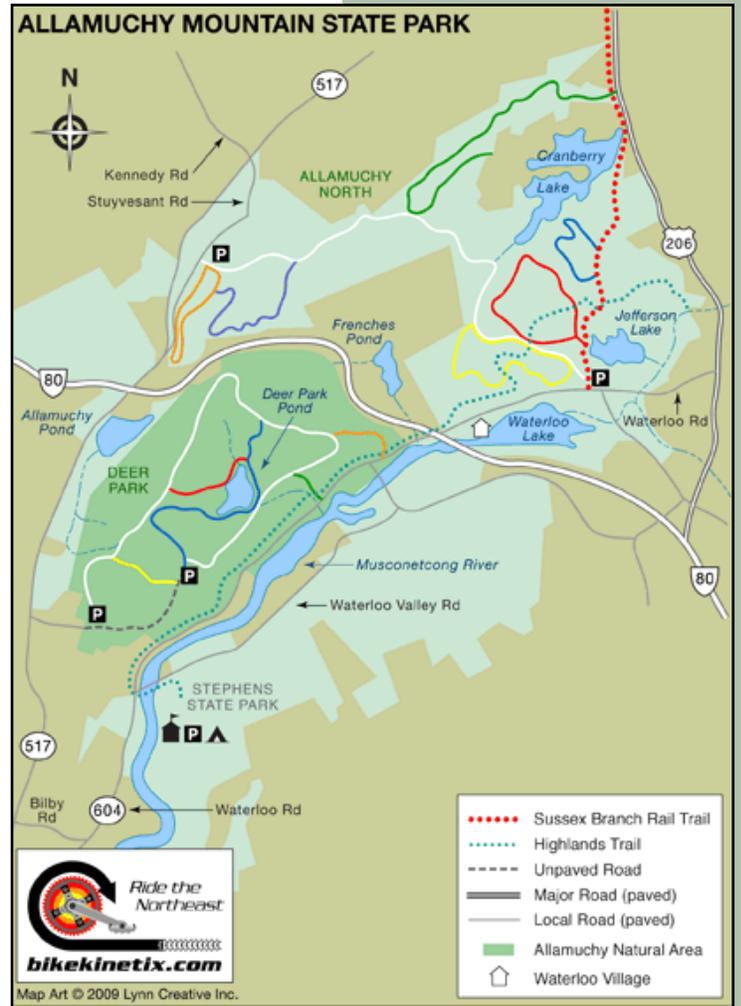


Acres of state-owned land adjacent to the greenway by municipality



Existing section of trail at Florence Kuipers Park

Existing Features : *Description*



Trail map of Allamuchy Mountain State Park. Image courtesy www.bikekinetix.com



A view from Allamuchy Mountain
Photo courtesy gonehikin.blogspot.com



The Grist Mill at Waterloo Village
Photo courtesy www.millpictures.com

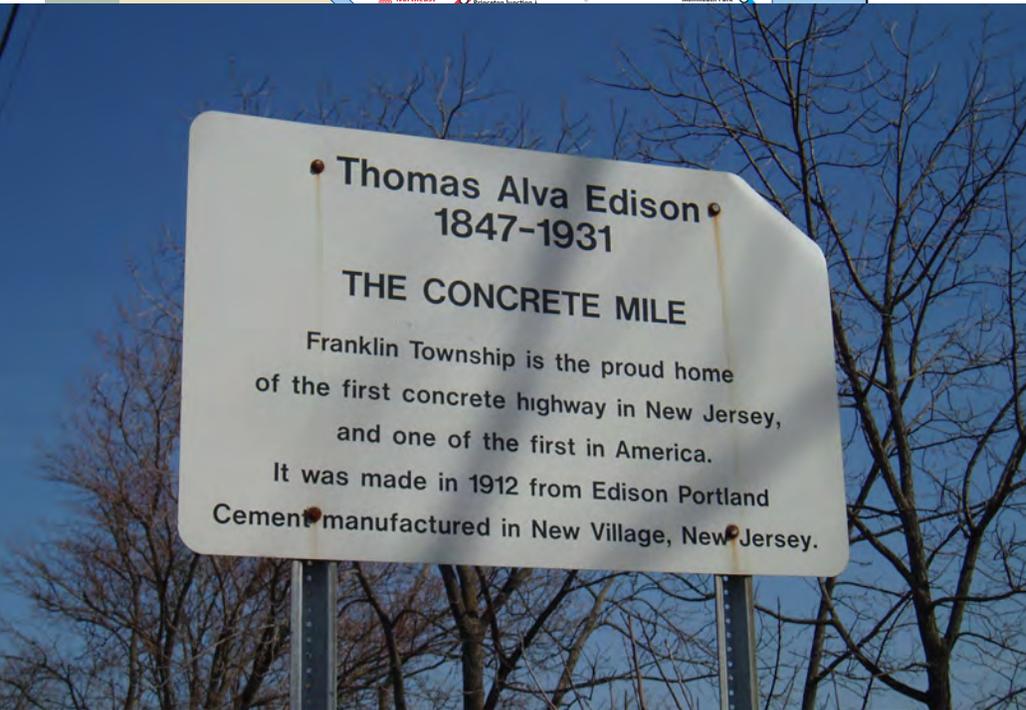
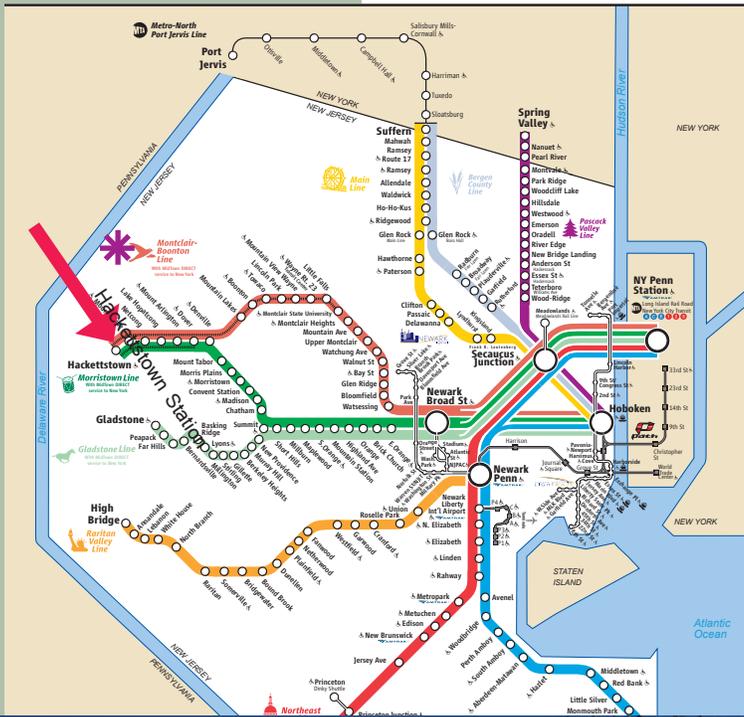
Existing Features : *Linkages*

Transportation and Linkage Assessment

Public Transportation

Given the rural character of much of the greenway, very little of it is served by public transportation. The exceptions to this are the Route 57 Shuttle Bus and the New Jersey Transit (NJT) rail station at Hackettstown. The Route 57 Shuttle Bus, made possible by a Federal grant distributed by NJT, provides service along the Route 57 corridor via two routes: Phillipsburg/Washington and Hackettstown/Washington. The busses run during weekdays from 6:00 am to 6:00 pm and Saturdays from 9:00 am to 4:00 pm with pick-ups approximately every hour at key locations including colleges, hospitals, and grocery stores.

New Jersey Transit's Hackettstown Station represents the most substantial link to public transit along the route of the greenway. This station, located less than a quarter mile from Florence Kuipers Park, provides access via the Morristown line to the entire NJT network. Connections to this station could provide non-automotive access to the trail network for visiting users, as well as a link for local trail users to access the resources connected to the transit network. However,



Existing Features : *Linkages*

Warren Heritage Scenic Byway (Route 57)

A significant length of the Morris Canal roughly parallels Route 57, a historic transportation corridor that follows the former route of the Morris Turnpike built in the early 1800s. In 2011, communities along the highway obtained a state scenic byway designation for Route 57, to be called the Warren Heritage Scenic Byway, from the state Department of Transportation, in recognition of the intrinsic aesthetic, archaeological, historic, cultural, recreational and natural resources found along this road corridor.

At Bread Lock Park, the Morris Canal abuts a mile of Route 57 that was built by Thomas Edison in 1912 as an experiment in highway construction using concrete from his Portland Cement Plant in nearby New Village. The corridor management plan for the scenic byway recommends various strategies for preserving the highway's intrinsic resources to not only maintain the overall character of the roadway and surrounding communities but also to complement



The concrete mile of Route 57

efforts to capture the economic development potential generated by the traveling public. As a result, the corridor management plan identifies Bread Lock Park as a major attraction along the scenic byway and supports preservation of the Morris Canal as a historic resource and the establishment of the Morris Canal Greenway as a means of linking canal and byway features.

Because scenic byways are intended to provide opportunities for pedestrians and bicyclists in addition to vehicular travel, the corridor management plan recommends that a feasibility study be conducted to investigate the potential for creating a trail for pedestrians and bicyclists along the scenic byway, perhaps as part of a separate but parallel route following the towpath of the Morris Canal instead of a sidewalk or bike lane system within the road right-of-way. The plan also suggests that the museum facilities at Bread Lock Park incorporate information on the history of the scenic byway and Edison's Concrete Mile and that byway and canal preservation activities be coordinated to maximize public enjoyment of these resources and any potential economic development benefits.



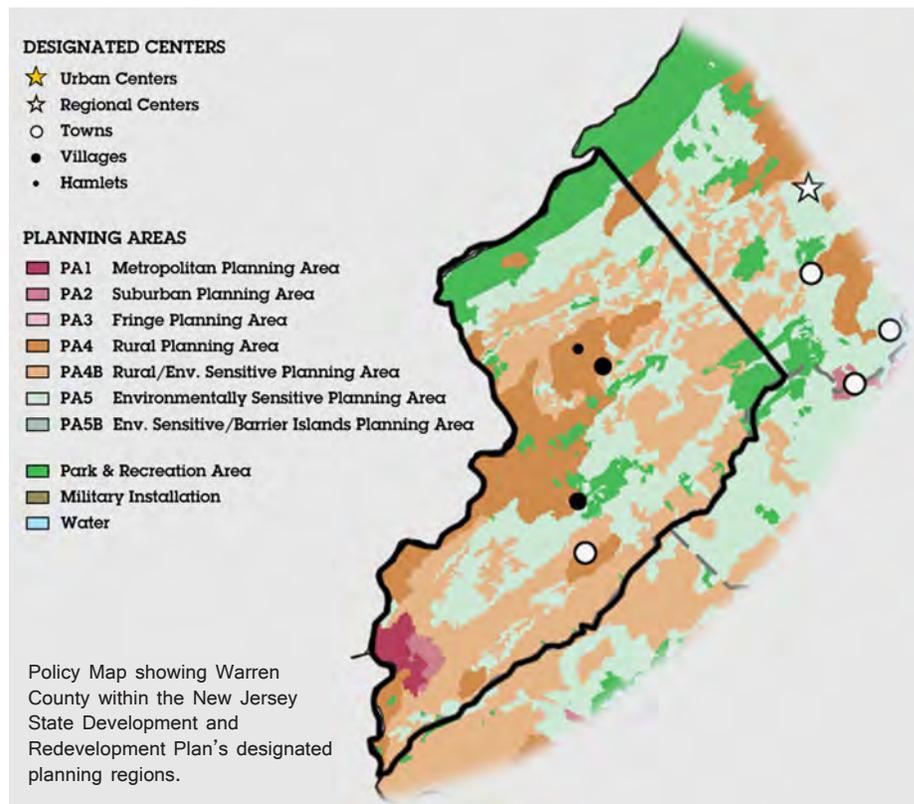
Existing Features : *Land Development*

Land Development Plans and Regulations

The New Jersey State Development and Redevelopment Plan

The New Jersey State Development and Redevelopment Plan, last adopted in 2001, designates most of the municipalities surrounding the greenway as Rural Planning Areas. The exceptions to this occur in and around Phillipsburg, Alpha Borough, Lopatcong and portions of Pohatcong and Greenwich which this plan designates as Metropolitan and Fringe Planning Areas.³ The plan's goals for these areas are generally to maintain their current character by preserving the existing large areas of agriculture and open spaces, while focusing growth on the small towns within.⁴

Highlands Water and Protection Planning Act



Signed into law in August, 2004, the Highlands Water and Protection Planning Act seeks to preserve open space and natural resources within New Jersey, especially those critical to maintaining drinking water resources to more than one-half of the families in the state.⁵ The act defines these resources geographically as the Highlands Region, and within this region establishes the Highlands Preservation Area

and the Highlands Planning area. The extents of these areas can be found on Maps 4 and 5 located in the Maps section at the end of this report. The areas designated as the Highlands Preservation Area, approximately 398,000 total acres, are those which have 'exceptional natural resource value' as defined by the act.⁶ Land not included in the Highlands Preservation Area, but still included in the Highlands Region, is designated as the Highlands Planning Area.

Large portions of the Morris Canal within Warren County are located within the Highlands Preservation Area. From the arch in Phillipsburg to Breadlock Park, the Morris Canal is located in the planning area. From the point at which the canal crosses Route 57 at Bread Lock Park, the route of

³ The New Jersey State Development and Redevelopment Plan, Executive Summary, New Jersey State Planning Commission, March 1, 2001, Page 26

⁴ Ibid

⁵ http://www.state.nj.us/dep/highlands/hwppa_faqs.htm#act

⁶ Ibid

Existing Features : *Land Development*

the canal is within the Preservation Area. A small portion of the canal in Washington Township and the entire stretch of canal in Washington Borough are located outside of the area. The remainder of the canal is located within the preservation area, except for a small portion at the northern end of Hackettstown. The greenway forms the border between Hackettstown and Independence Township; the Independence side of the greenway is in the preservation area and the greenway to the south in Hackettstown is located outside.

Areas included into the Highlands Preservation Area are considered protected by additional standards and restrictions imposed on “Major Highlands Development” as determined by New Jersey Department of Environmental Protection (NJDEP). A Major Highlands Development is defined as any non-residential development or any residential development which requires environmental land use permitting.⁷ It also includes any development which increases impervious surfaces or disturbance of forested areas greater than one-quarter acre. The restrictions in the Highlands Preservation Area greatly limit the amount of density for a proposed development as well as the total increase in impervious surfaces. In many areas these limitations remain in conflict with local zoning codes and have been seen by many municipalities as a limit to their growth potential.

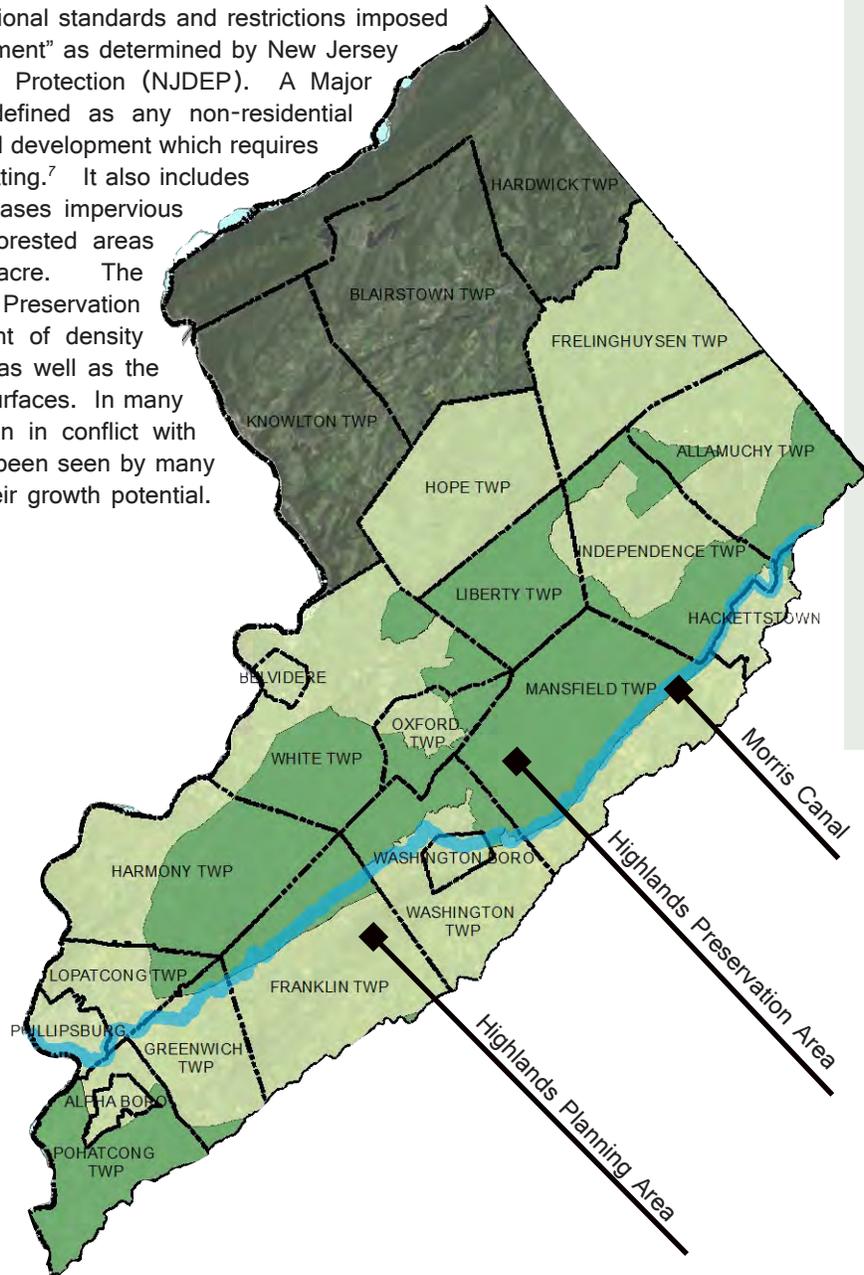


Figure 3-3: Map shows locations which greenway passes through the Highlands Preservation and Planning Areas in Warren County.

⁷ <http://www.state.nj.us/dep/highlands/docs/muniinfo.pdf>

Existing Features : *Land Development*

Morris Canal Model Ordinance

To aid municipalities in preservation efforts and to protect the Morris Canal and canal-related resources, the Morris Canal Committee developed a Model Ordinance (see Appendix G) — the Morris Canal Historic Preservation Requirements. This model ordinance explains why the canal should be preserved and then provides recommendations for preservation. It first discusses delineation of the canal corridor and associated resources. The ordinance’s design standards identify three categories of resources:

1. The canal itself, basins, locks and inclined planes;
2. Adjacent features, sites and structures of primary importance to the canal; and
3. Areas of special sensitivity within the zone.

In addition to specifying these features, the standards also identify a greenway buffer zone to minimize potential encroachments on the canal and potential conflicts between greenway users and adjacent land owners. The buffer zone is defined as a 100-foot setback from the outside toe of the canal’s bank or other feature. For example, if the canal traversed the center of a farmland parcel, the proposed buffer would be approximately 250 feet wide, 50 feet for the width of the canal and towpath, and 200 feet for the setback on either side.

Next, the design standards recommend canal crossings for roadways, drives and utilities. The intent for crossings is to limit their impacts on continuity of the canal and maintenance of water flow. Different approaches are recommended depending on the type and number of impacts to the canal by proposed improvements. The largest potential impact from this part of the standards requires that major subdivisions and development projects provide roadway bridges across the canal, rather than any filling or other disruptions to the canal right-of-way.



This residential development pushes right to the edge of the canal.

The standards also lay out procedures for acquiring canal-related parcels. It suggests using the NJDEP Green Acres methodology for determining values for property acquisition, easements and buffers. This methodology establishes a limit to the value of a property based on its certified market value.⁸ The standards also include provisions that the developer can designate part of a property for preservation in exchange for an adjustment in or offset to impact fees.

The final part of the standards provide details on transfers of ownership and easements and encourages donations of conservation easements for the canal and its related resources. The standards also request that all site-plan applicants designate conservation easements or donate the relevant portions of a property to the county. The ordinance also requests that public access be provided where possible.

The final part of the standards provide details on transfers of ownership and easements and encourages donations of conservation easements for the canal and its related resources.

Included in the model ordinance are two example conservation easements that can be used as a basis for completing such an agreement as part of the ordinance requirement. One of the examples is for an easement with right to public access and the other is without public access. A full version of the Model Ordinance can be found in Appendix G of this report.

⁸ http://www.nj.gov/dep/greenacres/faq.html#process_7

Existing Features : *Land Development*

Subdivision and Land Development Review at the County Level

Subdivision and land-development approvals reviewed by the Warren County Department of Planning address the inclusion of Morris Canal preservation efforts at all stages of the approvals process. The checklist for plan submission includes the requirement that the extents of the canal be shown on submissions for properties through which it passes. More importantly, the Warren County Development Review Regulations include the following stipulation under the heading of Morris Canal Committee:

“Any application for subdivision or site plan review, which is located within or adjacent to the Morris Canal, shall make note of this on the County’s application form. Subdivision and site plan developments containing or adjacent to the Morris Canal must delineate and meet the design requirements. Any towpath, canal prism, weir or remnant structure of the canal must be depicted on all subdivision and site plans. The subdivision and or site plan will be presented to the Warren County Morris Canal Committee for review and comment. The Committee’s comments will be taken under consideration by the Development Review Committee. If the Committee agrees with the Morris Canal Committee’s comments and recommendations, they will be included in the report to the Planning Board for action at its regular monthly meeting.”⁹

The design requirements referenced within the aforementioned section of code conform completely to that of the model ordinance.

Allamuchy Township, Greenwich Township, Mansfield Township, Town of Phillipsburg, Washington Borough and Washington Township

The land-development ordinances for these municipalities have no provisions for preserving the Morris Canal.

Hackettstown

Hackettstown provides a section of its land development ordinance dedicated to Morris Canal preservation even though the canal is not physically located within the municipality. In a fashion similar to the model ordinance and county’s requirements, it designates the important areas of concern and specifies that these resources be defined on land-development plans. Other than require the identification of the canal and a related resource on the plans, the ordinance does not provide many requirements for land development around the canal. It does prohibit indiscriminate filling or destruction of features within the canal zone and also prohibits issuance of building permits surrounding the canal that would negatively affect the cultural resource or its ability to serve as a drainage way. Per the ordinance, the determination of a “negative” effect is largely left to the interpretation of the zoning officer. The ordinance section does not go as far as the county does in providing details except for buffer provisions or requiring public access.

Independence Township

The general provisions of the land-development ordinance for Independence Township contain many of the same requirements as those for Hackettstown except that decisions and interpretations on the canal are left to the land use board and not the zoning officer.

Lopatcong Township

The land-development regulations for Lopatcong Township land surrounding the Morris Canal match those of Hackettstown but leave determination of the reviewing body for these decisions up to interpretation.

⁹ http://www.co.warren.nj.us/Planning/includings/open_space_plan/Appendix%20G%20Morris%20Canal%20Easement%20Sample.pdf

Existing Features : *Management*

Existing Organizational Structure



The long-term success of a large-scale initiative like the Morris Canal Greenway depends upon a skilled, focused and smoothly functioning organization. In 1981, the Warren County Morris Canal Committee (WCMCC) was established by the Board of Chosen Freeholders as a special committee to assist the Warren County Planning Board and the Warren County Board of Chosen Freeholders in “the review of historical data, engineering features, potential uses and means of acquisition of portions of the Morris Canal.”¹⁰ The Planning Board sought the input of canal enthusiasts to help implement the Open Space Element of the county’s Master Plan which designated the alignment of the Morris Canal “for historical preservation and recreation purposes.”¹¹ The Committee was also empowered to “review and comment on all development proposals affecting

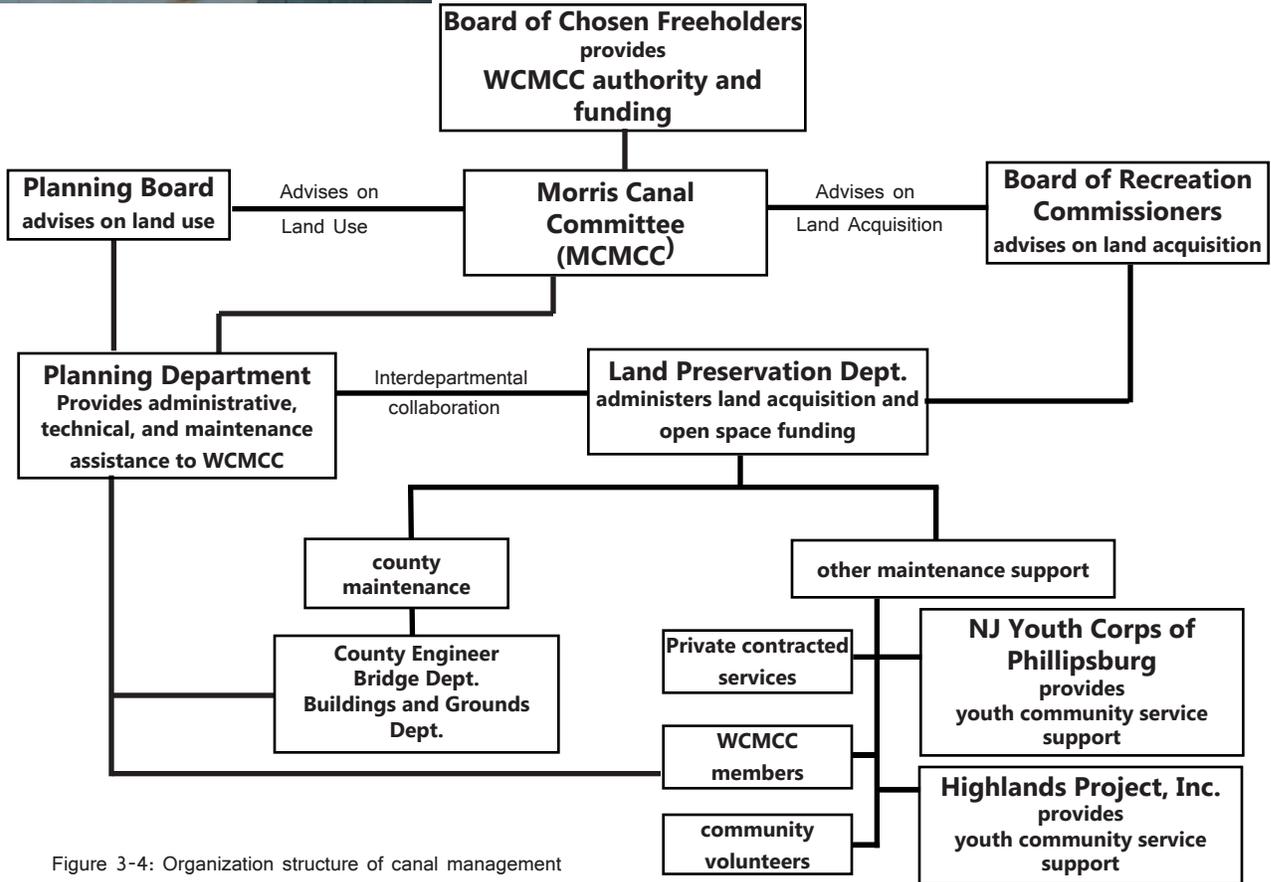


Figure 3-4: Organization structure of canal management

¹⁰ Minutes of the Freeholder meeting establishing the Warren County Morris Canal Committee.
¹¹ Warren County Planning Board Resolution recommending establishment of the Warren County Morris Canal Committee, dated August 25, 1980.
¹² Bylaws of the Warren County Morris Canal Committee, latest revision September 6, 1995. Page 1.
¹³ Ibid.
¹⁴ Ibid.

Existing Features : *Management*

Key Achievements

Over the past thirty years, the WCMCC has met monthly to oversee a variety of canal preservation activities and accomplish the major milestones listed below in collaboration with other county boards and department personnel. The WCMCC approached each task differently, completing some activities as a group and other activities as a subcommittee. Some members have acted individually, outside of their Morris Canal Committee responsibilities, to preserve the canal.

- The completion of the Historic Preservation Survey of the Morris Canal in Warren County as prepared by Brian Morrell in 1983, providing a framework for future conservation activities.
- Establishment of visitor attractions at Bread Lock Park and Plane 9W with interpretive displays and guided programs (involving site restoration and adaptive reuse of canal structures). The museums at Bread Lock Park and Plane 9W are open to the public the second Sunday of every month from 1:00 p.m. to 4:00 p.m. Plane 9W is open by appointment only from November to April.
- Promotion of oral histories of individuals who worked and/or lived on the canal as recorded by James Lee, Sr. in his book, Tales the Boatmen Told – Recollections of the Morris Canal, and a feature film called *Famous Tiller Sharks*.
- Biennial tours of canal sites. These tours are typically held on a Saturday in May and October and consist of visits to Bread Lock Park, Plane 9W, Florence Kuipers Park, Port Murray and Port Colden. The per person charge for the tour includes a box lunch and bus transportation.
- A collection of paintings of more than 60 canal scenes painted by local artist, Richard Schisler. Many are on display at the Bread Lock Park museum and at other county buildings or currently in storage.
- The purchase of canal artifacts and historic slides from the Lee family as part of Warren County’s collection of state and local history memorabilia.
- The development of a website featuring a brief history of the Morris Canal, information on accessible canal sites and public tours, activities for children, links to other websites and contact information. (Available online at www.morriscanal.org)
- Numerous publications documenting various aspects of the canal operation and history, including brochures of walking tours and key sites.
- The design and installation of more than 18 kiosks with interpretative signage at public access points along the canal.
- Purchase of land or conservation easements preserving approximately 20 percent of the canal in county-ownership.



A tour group participates in annual tour at Plan 9 West

Existing Features : *Management*

Land Acquisition

The acquisition of Morris Canal land through fee simple purchase, easement, and donation is the responsibility of the Land Preservation Department, which negotiates these purchases on behalf of the WCMCC. In addition, Morris Canal acquisition is accomplished through the land development review process of the WC Planning Board. The Land Preservation Department also provides land acquisition, technical and administrative assistance to the Warren County Agricultural Development Board and the Board of Recreation Commissioners, both of which offer additional input on the preservation of agricultural, natural, recreational and historic resources.

Maintenance and Operations

Tasks associated with maintaining preserved canal properties include boundary posting, mowing and other yard work, brush clearing, restoration, parking lot upkeep and building care. The Land Preservation Department currently coordinates maintenance activities on behalf of the WCMCC with assistance from several groups:

- The County Engineering Office, and the Bridge, Road, Planning, and Buildings and Grounds Departments.
- Private contractors hired to perform specific maintenance duties.
- The Highlands Project Inc. This community based program provides youth with “directed and educational community service projects on Saturday mornings from 8 a.m. to noon.”¹⁵ The headquarters of The Highlands Project Inc. is located at Bread Lock Park where youth have helped restore a section of the canal and built a full-sized replica of a canal boat outdoors.
- Participants from the New Jersey Youth Corps of Phillipsburg, a program that provides young adults with an opportunity to obtain a GED diploma and job training through community service projects.
- Members of the WCMCC and community volunteers.

Funding

Major funding for the preservation of the Morris Canal began with a \$1 million matching grant for land acquisition from the New Jersey Department of Environmental Protection’s Green Acres Program in 1987. Planning Incentive Grants were obtained in the late 1990s, and early 2000s to purchase land identified in the County’s Open Space Plan, including canal-related properties. Local funds for the acquisition and maintenance of canal lands come from a non-binding public referendum originally passed by Warren County voters in 1993 and subsequently reauthorized and enhanced in scope in 1999 and 2002 to allow an additional tax of up to 6 cents per \$100 of assessed valuation for the purpose of “acquiring land and easements to preserve farmland, open space, and historic properties in order to protect agriculture, drinking water sources, provide outdoor recreation, maintain county open space properties, and to pay the debt service incurred for the acquisition of such properties.”¹⁶ “In 2010 alone, this tax raised \$8.08 million to help keep Warren County green.”¹⁷ Taxes collected by the fund are distributed using the following allocation:

¹⁵ Official Directory, Warren County, New Jersey. Page 61.

¹⁶ Ballot Question for the 2002 Non-Binding Referendum. Warren County, NJ.

¹⁷ 2011 Official Directory, Warren County, NJ, Page 16.

Existing Features : *Management*

- 55% for the preservation of agricultural lands by the county.
- 25% for the Municipal & Charitable Conservancy Trust Fund which re-grants these funds to local municipalities and eligible non-profit organizations for open space, farmland and historic preservation purposes.
- 20% for the preservation of open space by the county, of which up to 10% can be used for the maintenance of county open space.

The Land Preservation Department administers the Open Space Trust Fund, distributing the financial resources of the fund for conservation projects with the approval of the Board of Chosen Freeholders after receiving input from the various county boards, commissions and committees involved in preservation such as the WCMCC. Some canal land and easement purchases have included a bargain sale contribution from the seller.



Tail race of Plane 10W is still visible along Lock Street

The Planning Department has also obtained other state and federal grants to finance Morris Canal projects. The reconstruction of the canal prism and towpath between Route 22 and Strykers Road is being funded by a \$315,000 federal Intermodal Surface Transportation Efficiency Act (ISTEA) Transportation Enhancement grant. This work will be completed in the summer of 2012. Several projects have been funded with the following grants from The New Jersey Historic Trust:

- \$30,000 grant for the preparation of a Master Plan for Bread Lock.
- \$43,198 grant for the restoration of the masonry at the Plane 9W tailrace opening and headwall.
- \$45,000 grant to conduct an archaeological investigation and condition assessment at Inclined Plane 10W in Lopatcong Township scheduled for Summer 2012.



Tributary of the Lopatcong Creek erodes the canal bed just west of Strykers Road

Existing Features : *Management*

In addition, the County contracted with North Jersey Resource Conservation and Development (NJRC&D) to prepare plans to address the erosion problems of the Lopatcong Creek and Morris Canal in Lopatcong Township. The NJRC&D received a \$29,831 grant from the New Jersey Historic Trust to undertake this task.

The WCMCC bylaws indicate that funding for its activities are “appropriated by the Board of Chosen Freeholders through the Planning Department, exclusive of gifts. Gifts may be spent upon authorization of the Committee Chairman, subject to any conditions of the donor. The Committee reserves the right to refuse any gift where the conditions fixed by the donor are not in accord with the objectives of the Committee.”¹⁸ In 2012, the WCMCC receives an annual budget of \$5,300 to cover the cost of its operating expenses in addition to the value of county staff support. No significant gifts have been received to date.

Current Organizational Challenges

The public participation process for the 25-Year Action Plan revealed four important challenges ahead for the WCMCC. These challenges include the need to:

- **Nurture a new generation of canal enthusiasts to provide future leadership for the WCMCC and commit to continuing canal preservation work.** Many of the WCMCC members are retired individuals who will become limited in the amount of time they can dedicate to canal conservation efforts.
- **Diversify funding sources.** The WCMCC has been successful in building significant momentum for the completion of a variety of canal preservation projects. A broader base of financial support, including private donations, is required to keep pace with current land and easement acquisition opportunities, long-term maintenance responsibilities, continued restoration work, the development of new educational programs. Solutions to this problem will have to correct a misconception on the part of the general public that private donations are not needed due to the Open Space Trust Fund and the availability of state and federal funds.
- **Improve coordination of county departmental services.** The expertise of the Planning Department is useful in encouraging and coordinating sound land use planning to protect canal resources so that local land use policies and new land development projects do not ignore or destroy this historic structure. The Land Preservation Department provides an equally critical role in responding to and negotiating real estate transactions to preserve and maintain canal lands. The Departments of



The canal prism near and remaining portions of the lock at Saxton Falls

¹⁸ Bylaws of the Warren County Morris Canal Committee, latest revision September 6, 1995. Page 4.

Existing Features : *Management*

Planning and of Land Preservation rely on the County Engineering Office and the Bridge, Road and Buildings and Grounds Departments to occasionally assist in completing canal projects. The existing division of responsibilities within county government complicates the overall management of canal preservation activities and requires interdepartmental coordination that could be improved.

- **Create new partnerships to broaden public support.** The vision for the Morris Canal Greenway encompasses more than just historic preservation. It includes elements of education, open space conservation, recreation, economic development, and land use planning that would benefit from the involvement of other constituent groups who can offer valuable input and a fresh perspective on canal preservation efforts. The WCMCC is interested in reaching out to these constituents and using their abilities in an effective way.
- **Position the Morris Canal as a future Heritage Area.** The 25-Year Action Plan can be used as a tool to pursue a State and National Heritage Area designation due to the historical significance of the Morris Canal. A better understanding of how other cultural assets have pursued heritage area status is desired.

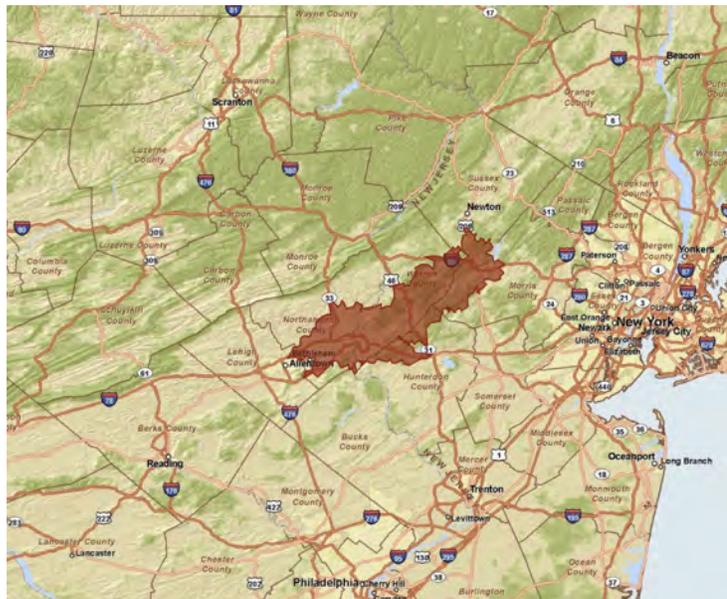
Existing Features : *Demographics*

Demographic Analysis

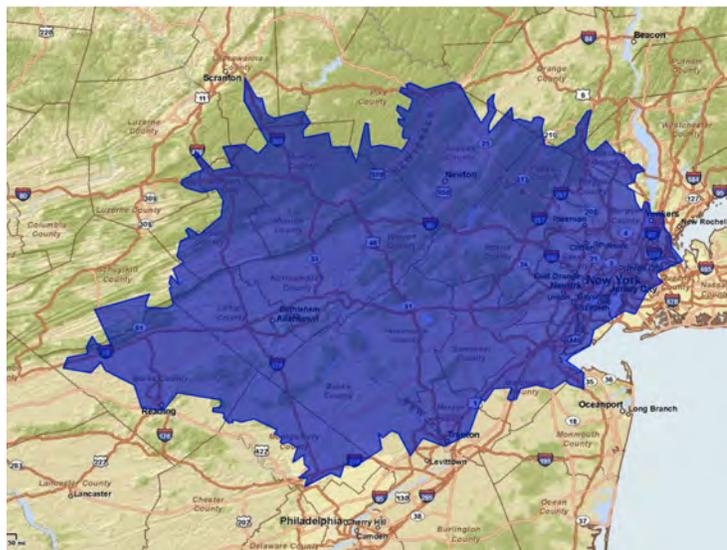
Highlights

- The areas determined as the primary market area and secondary market area, as well as the state of New Jersey, all experienced flat population growth from 2000 to 2010, a trend that is expected to continue through 2015.
- Aging population trend: From 2000 to 2015, the primary market area (PMA) is projected to see the largest growth in its 55-and-over cohort as a share of total population. This aging trend mirrors regional and national trends.
- 4.5 percent per annum: This is the increase in PMA households earning more than \$75,000 per year from 2000 to 2010, which outpaced the secondary market area (SMA) and the state over the same period.
- Increasing educational attainment: The percentage of adults with an associate degree or higher is projected to increase by 25.7% in the PMA from 2000 to 2015.

According to a 2011 Outdoor Recreation Participation Report by The Outdoor Foundation, almost half (46%) of persons age six and older living in the Middle Atlantic region participated in an outdoor recreational activity. In general, this report demonstrated that Americans who are 25 years or older, employed, and from households with upper-income households were those most likely to participate in outdoor recreation activities. In order to better support physical improvement and programmatic recommendations for outdoor recreation amenities like the Morris Canal Greenway, it is important to understand demographic trends for current and future Morris Canal users. The following section highlights key demographic trends for the Morris Canal area,



15-minute drive contour around the Morris Canal through Warren County. Visitors of the Greenway coming from this zone were identified as the "primary market."



60-minute drive contour around the Morris Canal through Warren County. Greenway visitors who travel from within this contour are the greenway's "secondary market."

Existing Features : *Demographics*

based on US Census data for the Primary Market Area (PMA), Secondary Market Area (SMA), and State of New Jersey. The PMA represents a 15-minute drive from the trail and captures likely frequent users of the trail (walkers, bicyclist, joggers, bird watching enthusiasts, etc.). The SMA represents a 60-minute drive from the trail and captures canal patrons who, typically, might use the trail once a month or less, due to distance or convenience getting to the trail.

Populations and Households

From 2000 to 2010, both the SMA and State of New Jersey experienced relatively flat household population growth (0.4% per annum), while the PMA grew at a more moderate pace (0.8%). Figure 3-5 illustrates annual percent change in household population for the three geographies. Household population growth is expected to remain flat through 2015 in all three geographies.¹⁹ As illustrated in Figure 3-6 total household growth from 2000 to 2010 mirrored household population and is projected to continue to do so through 2015.

Figure 3-5: Annualized Percentage Change in Household Population by Geographies²⁰

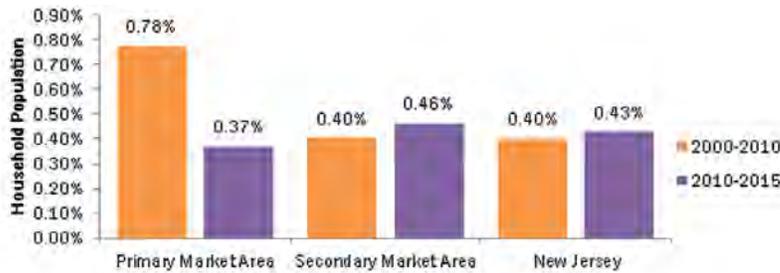
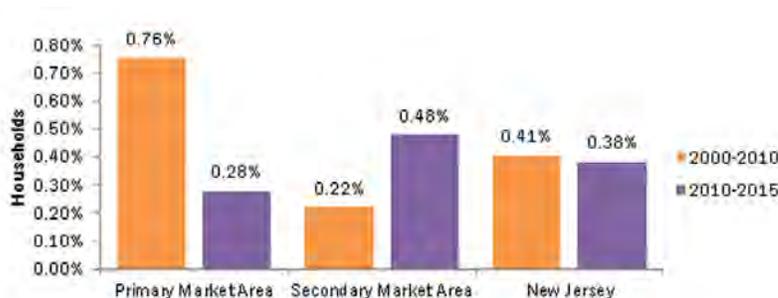


Figure 3-6: Annualized Percentage Change in Total Households²¹



¹⁹ Household population refers to the total population minus all the people living in group quarters or institutions.

²⁰ US Census Bureau, Scan US; 4Ward Planning LLC, 2011

²¹ Ibid.

Existing Features : *Demographics*

Figure 3-7: Annualized Percentage Change in Family Households by Geography²²



Figure 3-8: Annualized Percentage Change in Non-Family Households by Geography²²

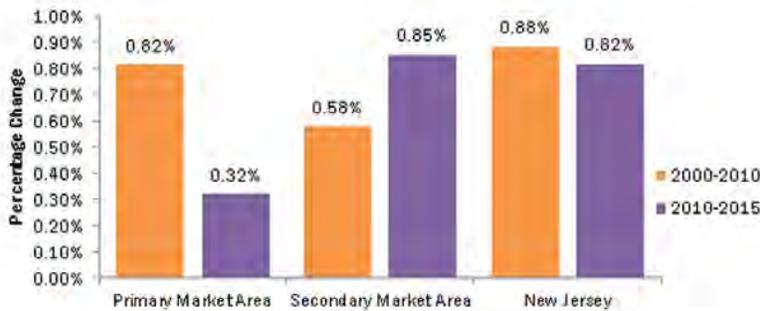


Figure 3-9: Share of Owner-Occupied Households by Geography²²



Household Type

As presented in Figures 3-7 and 3-8 growth in non-family households (i.e., households where none of the members are related) for both the SMA and the state was more robust than growth in family households (i.e., households containing one or more related persons). However, within the PMA, growth in family and non-family households was nearly identical (0.7% to 0.8% per year, respectively).

Household Tenure and Inventory

In both 2000 and 2010, the PMA contained the highest share of owner-occupied households (seven out of ten households were owner-occupied) of all three geographies. Six out of ten New Jersey households were owner-occupied, while fewer than half of households within the SMA were owner-occupied. From 2000 to 2010, owner-occupied housing remained relatively flat and is projected to remain steady through 2015. Conversely, all three geographies experienced slight declines in renter-occupied households over the decade. Figures 3-9 and 3-10 compare the share of owner- and renter occupied households by year for all three geographies.

²² Source: US Census Bureau, Scan US; 4Ward Planning LLC, 2011

Existing Features : *Demographics*

Income

According to a 2011 Outdoor Recreation Participation Report, 46 percent of those participating in outdoor activities nationally are from households with incomes of \$75,000 or more, where discretionary income can be used for leisure activities such as recreation.

As illustrated in Figure 3-11, while all three geographies had fairly similar median household incomes in 2000 and 2010, the PMA exhibited the highest of all three (\$72,184 in 2010, versus \$65,004 in the SMA and \$68,197 in the state). Growth in upper-income households (those earning more than \$75,000 per year) was robust in all three geographies from 2000 to 2010, growing strongest in the PMA at 4.5 percent per year, as illustrated in Figure 3-12. This growth is projected to continue at a more moderate pace across all geographies through 2015.

Figure 3-11: Median Household Income by Geography²³

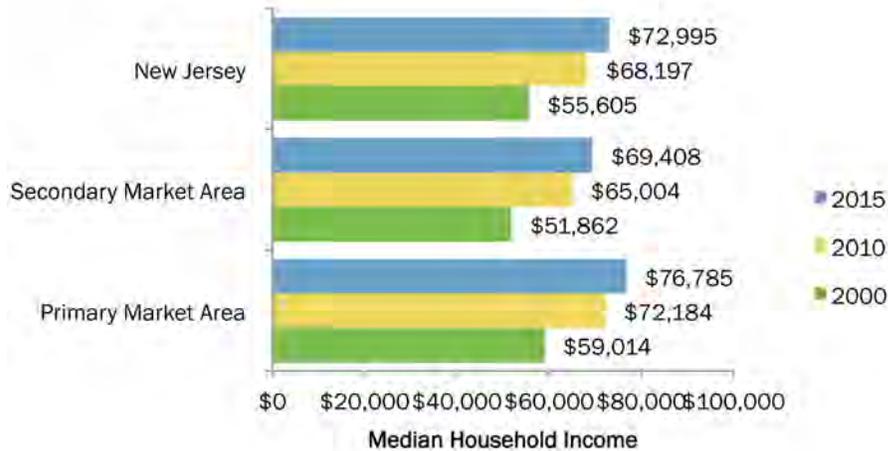
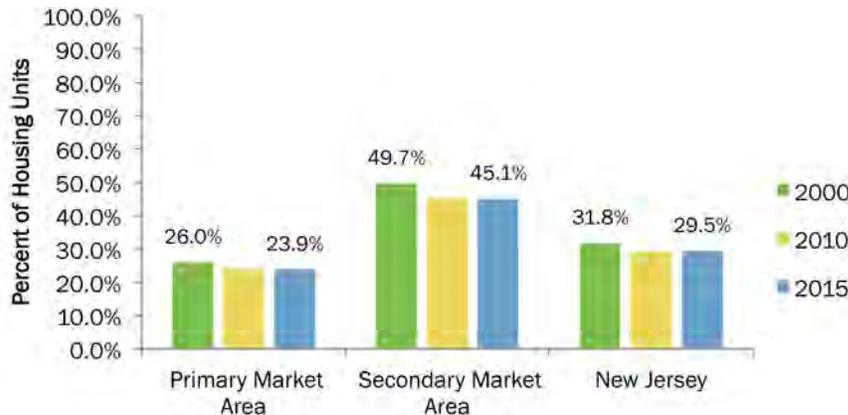


Figure 3-10: Share of Rented Households by Geography²³



²³ Source: US Census Bureau, Scan US; 4Ward Planning LLC, 2011

Existing Features : *Demographics*

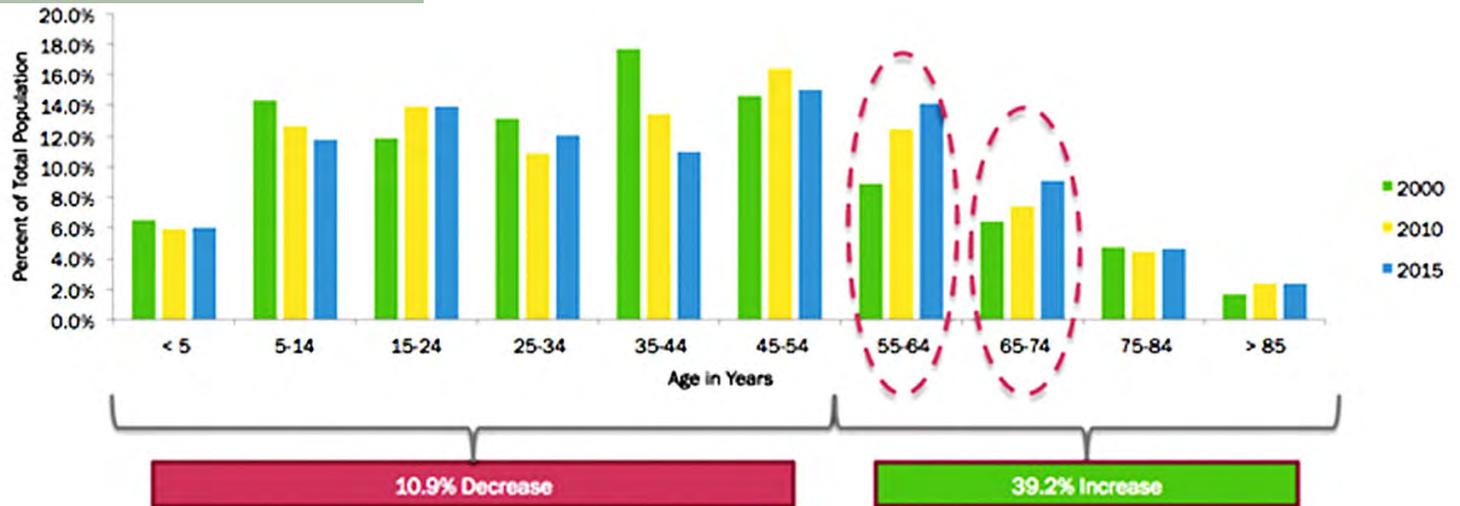
Figure 3-12: Annualized Percentage Change in Households with Income > \$75,000 by Geography²⁴



Age Cohorts in the Primary Market Area

According to a 2011 Outdoor Recreation Participation Report, 66 percent of those participating in outdoor activities nationally are ages 25 and older. Because of improved health and fitness as well as lifestyle changes, the aging of the “baby boom” generation (those born between 1946 and 1964) and increase of “empty nesters,” with discretionary time and income, provide additional demand for outdoor recreational activities.

Figure 3-13: Primary Market Area Age Cohorts by Percentage Share²⁴



As illustrated in Figure 3-13, the PMA experienced an aging of its population from 2000 to 2010. This trend mirrors regional and national trends, and is projected to continue through 2015. From 2000 to 2015, the percentage share of the population age 55-and-over is expected to increase by 39.2 percent, while the percentage share of the population under-55 years is projected to decrease by 10.9 percent. Growth in population share is notably high in the 55 to 64 (59.5 percent increase) and 65 to 74 (41.4 percent increase) cohorts. This trend suggests a favorable increase in goods and services that are marketed toward “empty-nester” households with higher discretionary incomes who tend to use trails for recreation more frequently than younger cohorts.

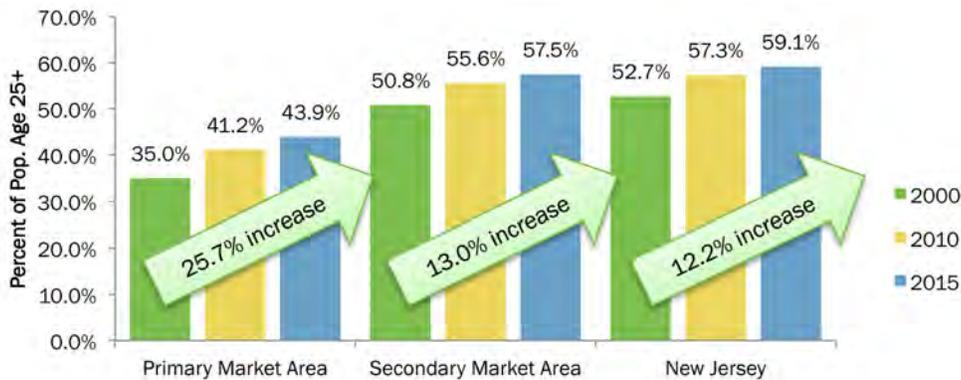
²⁴ Source: US Census Bureau, Scan US; 4Ward Planning LLC, 2011

Existing Features: *Demographics*

Educational Attainment

Interestingly, while the PMA exhibited higher household incomes than both the SMA and the state in 2000 and 2010, it contained a significantly smaller percentage of adults with an associate degree or higher in each of those years. While half of adults in the SMA and state possessed a degree in 2000, only 35 percent of adults in the PMA possessed one. As illustrated in Figure 3-14, educational attainment levels are projected to continue increasing through 2015. From 2000 to 2015, the share of adults with associate degrees or higher in the PMA is expected to increase approximately 25.7 percent, compared with 13.0 percent within the SMA and 12.2 percent within the state.

Figure 3-14: Adults with an Associate Degree or Higher²⁵



Highlights

- Flat or declining employment: Employment declined in the one-mile buffer and, to a lesser extent, the five-mile buffer from 2005 to 2009, while remaining relatively flat in the 10-mile buffer.
- 21.3 percent: This is the net outflow (i.e., those that live within the area but work elsewhere) of people in the 10-mile buffer area.
- Trail activity as a boost to local industries: The retail trade and accommodation and food services industries both saw significant declines in employment from 2005 to 2009. Trail activity could conceivably help reverse this trend in the post-recession years.

²⁵ Source: US Census Bureau, Scan US; 4Ward Planning LLC, 2011

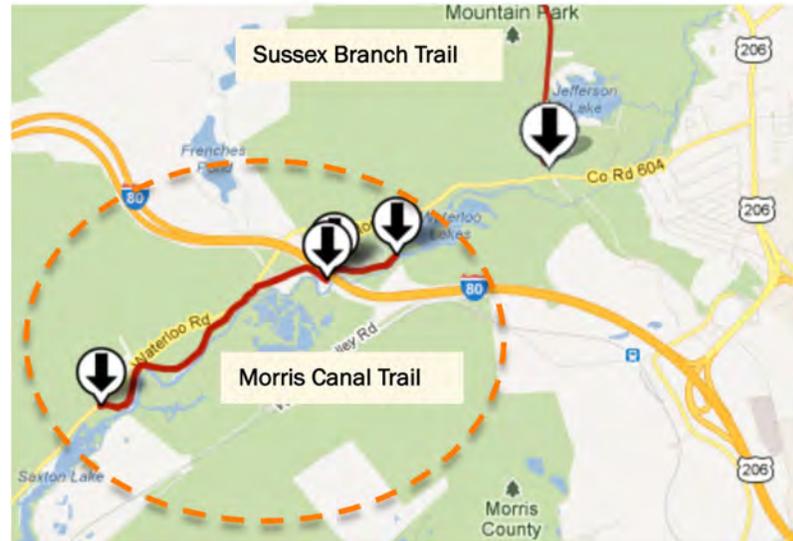
Existing Features : *Demographics*

Local and Regional Trails and Businesses

The following section provides an overview of the local and regional infrastructure and trail resources as a basis for understanding the surrounding environment, competitive attractions, and potential partnerships relevant the proposed Morris Canal Greenway.

Warren County Trail Inventory

The existing Morris Canal trail section of the longer New Jersey Highlands Trail extends two miles from Waterloo Lakes in Sussex County (in close proximity to the 18-mile Sussex Branch Trail) to Saxton Lake in Warren County. Currently, Warren County’s multiuse trail network provides 35.6 miles of public open space, as summarized in Table 3-1. The proposed Morris Canal Greenway is envisioned to add an additional 33 miles of trails within Warren County, extending from Phillipsburg to Allamuchy State Park.



Highlighted with a red line is the Morris Canal Trail section of the New Jersey Highlands Trail. Trailheads are marked with arrow
Source: TrailLink.com

Table 3-1: Regional Trail Survey²⁶

Name	Length	Activities	End Points
Karamac Trail	1.5 miles	biking, walking, cross-country skiing	Pahaquarry to Pahaquarry
Morris Canal	2.0 miles	biking, walking, cross-country skiing	Allamuchy (near Allamuchy State Park) to Bryam Twsp. (Waterloo Village)
Oxford Bikeway	0.9 miles	biking, walking, inline skating, wheelchair accessible	Oxford (Pequest Rd.) to Oxford (Lower Denmark Rd.)
Paulinskill Valley Trail	27.0 miles	horseback riding, mountain biking, walking, cross-country skiing	Sparta Junction (Sussex County) to Brugler Rd. (Knowlton Twsp.)
Pequest Wildlife Management Area	4.2 miles	fishing, walking, cross-country skiing	intersection of US 46 and NJ 31, Butzville, NJ to Pequest Rd., Townsbury, NJ
TOTAL	35.6 miles		

²⁶ www.trailink.com, website of the Rails-to-Trails Conservancy which maps and describes completed Rails-to-trails pathways

Existing Features : *Demographics*

Regional Trail Inventory

As presented in Table 3-2, there are a number of regional trails that offer a wide variety of recreational activities suitable for both the summer and winter outdoor activities. Furthermore, these trails also provide opportunities for organized events and services, some free of charge and others subject to a fee through an outside vendor (i.e. sports outfitter), as listed in Table 3-3. Based on these comparisons, it is likely that a greenway/trail within Warren County may benefit from similar types of economic development.

Table 3-2: Statistics and Program of Other Regional Trails ²⁷

Trail	State	Length	jogging	hiking	fishing	bicycling	birding	boating	kayaking	camping	horseback riding	x-country skiing	snow-mobiling
Pine Creek Rail Trail	PA	57 mi.		X	X	X			X	X	X		
Perkiomen Trail	PA	18 mi.	X			X					X	X	
Schuylkill River Trail	PA	130 mi.	X		X	X		X	X		X	X	X
Heritage Rail Trail	PA	21 mi.	X	X		X	X				X	X	
Oil Heritage Trail	PA	60 mi.				X	X			X			
Lower Trail	PA	17 mi.	X	X		X	X	X					
Great Allegheny Passage	PA	141 mi.	X	X		X					X	X	
Torrey C. Brown Trail	MD	20 mi.	X	X	X	X					X		
Virginia Creeper Trail	VA	34 mi.	X	X	X	X					X		

²⁷ www.trailink.com

Existing Features : *Demographics*

Table 3-3: Events and Services Offered by Other Regional Trails ²⁸

Trail	Events and Services
Pine Creek Trail	Snowshoe hike, moonlit hike (free)
Schuylkill River Trail	seasonal boat and kayak tours on the river, festivals and outdoor movies, geocaching
Heritage Rail Trail	Sunset Scramble and moonlight bike ride (free), museums
Oil Heritage Trail	kayak and canoe trips, annual fundraisers
Lower Trail	Post-Thanksgiving hike
Great Allegheny Passage	Do-it-Yourself trips, bike trips and tours, outfitters and shuttle services, wilderness tours and fundraisers, sustainable business network, trail manual and checklist, online store, geocaching (free)
Torrey C. Brown Trail	Railroad museum
Virginia Creeper Trail	Bicycle rentals and shuttle service
Genesee Valley Trail	Snowmobile classes, historic inns and restaurants, guided hikes and bike rides

Local Business Survey (within 1/2 Mile of Proposed Greenway):

A cursory inventory of businesses within a half mile of the proposed Morris Canal greenway identified approximately 19 businesses providing food, lodging, and sporting good services stores. When surveyed, the majority of the existing businesses located within the half-mile radius did not appear to use their proximity to the canal to promote their businesses.

The owner of a bike store in Phillipsburg had previously held canal history rides to promote his store but stopped because of lack of community interest. Many business owners and staff were not aware of the canal in general, nor were they aware of potential economic benefits.



Cycle Funatic in Phillipsburg

²⁸ www.trailink.com

Existing Features : *Demographics*

Table 3-4.1: Businesses Located within 1/2 Mile of Proposed Morris Canal Greenway: Phillipsburg

Name	Type
Ice Cream Junction	Fast Food
Joe's Steak House	Restaurant
Toby's Cup, Inc.	Fast Food
Parkway Liquors and Deli	Convenience
Phillipsburg Diner	Restaurant
Key City Diner	Restaurant
Deli Delight Bagel Shack	Fast Food
Hammer Heads Tavern	Bar
Cycle Funattic	Bike Store

Table 3-4.2: Businesses Located within 1/2 Mile of Proposed Morris Canal Greenway: Hackettstown

Name	Type
Greene's Beans Cafe	Cafe
The Everitt House	B + B
Marty's Reliable Cycle	Bike Store
Black Stones Bar and Grill	Restaurant

Table 3-4.3: Businesses Located within 1/2 Mile of Proposed Morris Canal Greenway: Washington

Name	Type
Cozy Corner Cafe and Catering	Cafe
Royal Diner	Restaurant
Family's Pizza and Restaurant	Restaurant
McCormick's Bicycle Shoppe	Bike Shop

Existing Features: *Economic Benefits*

Local Business Survey (within a 15-minute drive of proposed greenway)

Within a 15-minute drive of the proposed Morris Canal Greenway, there are approximately 250 restaurants and 78 sporting good stores, according to data provided by OnTheMap. However, only a handful of restaurants located within the 15-minute drive-time area appear to leverage the region's canal-related history to promote their business. For example, the Old Canal Inn in Nutley, N.J., advertises its proximity to the canal on its website, and Scerbo's Restaurant (formerly Canal House) in Wharton, NJ displays historic pictures of the canal in its building.



Local Canal-Related Museums



A tour is given biannually by local canal expert Jim Lee, Jr. of selected sites along the Morris Canal route.

The Canal Society of New Jersey provides a list of nearby museums on their website. Tourists who want to learn more about Morris Canal's history can visit museums such as the National Canal Museum in Easton, PA or the Lake Hopatcong Historical Museum in Landing, NJ, or can participate in a tour sponsored by the Warren County Morris Canal Committee. Although currently closed, the Waterloo Village Museum featured a working mill complex with gristmills and sawmills, a general store, blacksmith shop and several historic houses. It was also used as a venue for summer music concerts. Table 3-5 summarizes the regional museums that provide information on the region's canal related history.



Existing Features : *Economic Benefits*

Table 3-5: Local Canal-Related Museums

Name	Location
Hackettstown Historical Society Museum	106 Church St., Hackettstown, NJ
Hope Historical Society Museum	323 High St., Hope, NJ
Shippen Manor Museum	8 Belvidere Ave., Oxford, NJ
White Township Museum	555A County Rt. 519., Belvidere, NJ
The Jim and Mary Lee Museum	Rt. 519, 1/2 mile south of Rt. 57, Phillipsburg
Warren County Historical Learning Center at Bread Lock Park	Mile marker 4 of Rt. 57, New Village, NJ
Lake Hopatcong Historical Museum	Lakeside Boulevard, Landing, NJ
National Canal Museum	2750 Hugh Moore Park Rd., Easton, PA

Heritage Sites

According to 2010 data provided by the New Jersey Heritage Tourism Task Force, there were a total of 1,634 heritage sites within the State of New Jersey. Warren County had the least number of heritage sites (26 sites) for all New Jersey counties. Although the existing Morris Canal has significant engineering features, it is not an intact canal, and in its current condition, its historic resources open to the public are limited and have yet to develop the momentum to attract tourism from the larger region. Tourists who want to see an intact canal can visit the Delaware & Lehigh Canal in nearby Pennsylvania.



Photo of the Canal and Mill Building at Waterloo Village
Image courtesy of Friends of Waterloo Village



Oxford Furnace under restoration
Image courtesy of <http://lostinjersey.wordpress.com>

Existing Features: *Economic Benefits*

Market Value: Consumer Expenditures



Radnor Trail, growing suburb in PA

Based on the key demographic and labor trends, and surrounding environment, competitive attractions, and potential partnerships, prospective opportunities were identified for the proposed Morris Canal Greenway based on their ability to meet one or more of the following criteria:

- Provides revenue-generating activities that promote the financial short and long-term development and operation of the greenway
- Increases recreational amenities for local and regional users
Creates educational opportunities to learn about the canal's rich history

- Stimulates local economic development
- Promotes the greenway as a recreational and cultural tourism attraction within the larger region
- Integrates the proposed greenway plan with other initiatives in a manner that fosters new and/or improved partnerships and synergies

Prospective opportunities for the proposed Morris Canal Greenway are provided in the Recommendations section of this report. These prospective opportunities are organized based on their scope, whether they can be implemented along the entire greenway or are place-based.

Economic Benefits

Studies from all around the country have shown that local businesses receive economic benefits from trails and greenways as a result of consumer expenditures on “soft goods” (food, clothing, and gas, etc.) from trail users. On average, overnight and multi-day trail users spent significantly more on food, lodging, and other items. Although businesses located at the intersection of trail access points and major roads tend to capture the most consumer expenditures from trail users, the development of signs and kiosks can help direct users toward additional nearby businesses for food, beverages, supplies, shopping, etc.

According to 2009 Rails-to-Trails Conservancy data²⁹ for trails comparable to Morris Canal, the majority of trail users (60%) purchased soft goods (beverages, candy/snack foods, sandwiches, ice cream, restaurant meals, etc.), spending on average between \$4 and \$30 per visit (averaging \$14.14).

²⁹ Rails-to-Trails Conservancy, Trail User Surveys and Economic Impact: A Comparison of Trail User Expenditures, 2009; 4ward Planning LLC, 2012.



Perkiomen Trail, suburban/rural PA



Saxton Lake, Allamuchy Township

Existing Features: *Economic Benefits*

Table 3-6: Comparison of Consumer Expenditures on Soft Goods by Trail User (2009)³⁰

Trail	State	Length (miles)	Avg. spent on soft goods ⁱ	% purchasing soft goods	Annual User Visits	Annual expenditures (millions)
Pine Creek Rail Trail	PA	57	\$30.30	86%	138,277	\$3.6
Perkiomen Trail	PA	18	\$11.09	53%	397,814	\$2.3
Schuylkill River Trail	PA	130	\$8.86	33%	NA	NA
Heritage Rail Trail	PA	21	\$12.86	79%	394,823	\$4.0
Oil Heritage Trail	PA	60	\$8.92 ⁱⁱ	NA	160,729	\$4.3
Lower Trail	PA	17	\$27.20 ⁱⁱⁱ	NA	NA	NA
Great Allegheny Passage	PA	141	\$13.00	67%	NA	NA
Torrey C. Brown Trail	MD	20	\$9.14	72%	800,000	\$5.3
Virginia Creeper Trail	VA	34	\$19.20 ^{iv}	NA	130,172	\$2.5
Washington & Old Dominion Park	NY	45	\$4.11	NA	1,707,353	\$7.0
Genesee Valley Trail	NY	60	\$10.83	31%	NA	NA
AVERAGE/TOTAL			\$14.14	60%	532,740	\$4.1

Notes:

The age of the majority of respondents was in between 46-65 years old. On average, 79% of respondents were local users, 21% were non-local users.

ⁱ Soft goods were listed as: beverages, candy/snack foods, sandwiches, ice cream, restaurant meals, other and none of these.

ⁱⁱ Average spending based on \$32.93 for non-local respondents (27%) (includes lodging/camping), \$3.71 for local respondents (73%)

ⁱⁱⁱ Included gasoline costs & trail donations

^{iv} Based on total \$ amount; \$2.00 for local users

Non-Market Value: Recreational Benefits

Parks and preserved open space provide a range of non-market value benefits to society, one of which is a variety of recreational opportunities. People are able to express their willingness to pay to protect lands that provide those services.

According to 2005 study conducted by the U.S. Department of Agriculture, summarizing more than 30 years of literature on net economic



value of outdoor recreation on public lands within the United States, the average person within the Northeastern region is willing to spend anywhere from \$6 to \$121 per day on recreational activities.

³⁰ Rails-to-Trails Conservancy, Trail User Surveys and Economic Impact: A Comparison of Trail User Expenditures, 2009; 4ward Planning LLC, 2012.

Existing Features: *Economic Benefits*

Table 3-7: Willingness to Pay Values, 1967-2003, Northeast Region (2004 Dollars)³¹

Activity	Min. (\$)	Max. (\$)	Mean (\$)
Sightseeing	33.07	209.77	121.43
Rafting/ Canoeing	20.08	143.50	88.32
Hiking	49.80	91.10	75.18
Picnicking	8.94	103.96	56.45
Hunting	4.16	250.90	47.45
Mountain Biking	40.93	40.93	40.93
Birdwatching	5.80	78.46	34.86
Cross-country Skiing	29.70	39.49	34.60
Camping	6.73	66.44	33.11
Fishing	2.08	253.13	32.60
Wildlife Viewing	2.40	96.30	31.30
Swimming	2.20	50.10	22.21
General Recreation	1.97	46.69	16.87
Environmental Education	6.01	6.01	6.01

Non-Market Value: Ecosystem Services

Ecosystems provide a wide variety of economically valuable services, including water supply, waste treatment, disturbance buffering, plant and animal habitat, and others. For the most part, these services are not currently accounted for in market transactions. To help inform decision-makers, many ecosystem services are being assigned economic values, often based on the cost of replacement with anthropogenic alternatives. A 2006 study³² used 100 studies covering the types of ecosystems present in New Jersey to estimate ecoservice values, or the direct products or bi-products and services gained from elements of or a given ecosystem as a whole. Using the mean ecosystem service values, each acre of preserved open space provided \$309 in waste, \$768 in disturbance prevention, \$772 in habitat, and \$1,100 in water supply services per year.

Table 3-8: Annual Ecoservice Value of New Jersey's Preserved Open Space (2004 Dollars)³³

Ecosystem Service	Land Covers Associated with Ecosystem Service	Value (per Acre/Year)		
		Min	Mean	Max
Water Supply	Forests, Freshwater Wetlands, Open Freshwater, Riparian Buffer	\$3	\$1,102	\$3,839
Waste Assimilation	Forests, Freshwater Wetlands, Pasture, Riparian Buffer	\$44	\$309	\$838
Disturbance Prevention	Freshwater Wetlands, Riparian Buffers, Urban Green Space	\$6	\$768	\$3,657
Habitat	Cropland, Forests, Freshwater Wetlands	\$1	\$772	\$3,883

³¹ Loomis, Updated Outdoor Recreation Use Values on National Forests and Other Public Lands, USDA, October 2005

³² 4ward Planning, Costanza et al., The Value of New Jersey's Ecosystem Services and Natural Capital, 2006.

³³ Loomis, Updated Outdoor Recreation Use Values on National Forests and Other Public Lands, USDA, October 2005

Existing Features: *Economic Benefits*

Non-Market Value: Public Health

According to the National Centers for Disease Control and Prevention, New Jersey residents rank above average in physical inactivity. Physical inactivity as an independent risk factor for many chronic diseases (i.e. such as coronary heart disease, obesity, diabetes, hypertension, some cancers, and some mental disorders) has been investigated by many researchers and summarized in the surgeon general’s report on physical activity and health. National research indicates that physical inactivity can result in healthcare costs (both direct and indirect), workers’ compensation (both direct and indirect), and lost productivity costs³⁴. Based on this research, the annual cost of physical inactivity for the average American can range from \$2,892 to \$4,470 per person.

Table 3-9: Annual Physical Activity Cost Savings (2000 Dollars) ³⁵

Costs	Low	Expected	High
Direct Medical-Care Costs	\$308	\$475	\$642
Indirect Medical-Care Costs	\$924	\$1,425	\$1,926
Workers Compensation Costs	\$6	\$10	\$12
Indirect Workers Compensation Costs	\$24	\$40	\$48
Lost Productivity	\$1,630	\$1,918	\$2,112
Total	\$2,892	\$3,868	\$4,740

The lack of accessible facilities has been identified as one of the major deterrents to a physically active lifestyle. Fortunately, research also suggests that increasing the supply and quality of open spaces can help reduce health-care costs associated with physical inactivity by increasing the number of residents exercising at a level that incurs positive health benefits (i.e. walking or exercising one to two times a week).³⁶ demonstrated that building trails can be cost beneficial from a public health perspective. The study found that a \$1 investment in trails in Lincoln, Nebraska, led to \$2.94 in direct medical benefit or reduced health care costs associated with inactivity- (cost-benefit ratio of 2.94).

Research also suggests that the type, size, and features of open space can have an impact on the amount of physical activity occurring there. A study³⁷ found that parks with a paved trail, unpaved trail, or wooded area were more than seven times as likely to be used for physical activity as were parks without these features.

The proposed trail improvements to the Morris Canal Greenway will increase the access opportunities, linkages and overall quality of open spaces within Warren County, improving recreational opportunities and public health benefits for local residents and visitors.

³⁴ Pratt et al., 2000; Chenoweth, 2005; Chenoweth and Bortz, 2005

³⁵ Delaware Valley Regional Planning Commission, *The Economic Value of Protected Open Space in Southeastern Pennsylvania*, 2011.

³⁶ Wang et al, *Cost Effectiveness of a Bicycle/Pedestrian Trail Development in Health Promotion*, Preventive Medicine, 2004.

³⁷ Kaczynski, et al, *Association of Park Size, Distance, and Features With Physical Activity in Neighborhood Parks*, Vol 98, No. 8, *American Journal of Public Health*, August 2008

Existing Features

Funding Opportunities

Greenway development is often fraught with right-of-way ownership issues because trails must be pieced together over time from existing trail segments, revisions to canal land permits, conditions on new permits and leases, use of other public lands, and negotiations with willing sellers of land. Volunteers and nonprofit organizations are of critical importance to maintain controls on costs.

Funding Strategies: It is wise to pursue grants and low-interest loans, which are best suited for actions that will generate consistent, long-term revenue.

Technical Services: Agencies and nonprofit organizations may be able to provide technical or staff assistance.

Outside Vendors and Professionals: Vendors provide service to greenway visitors (i.e. food services, event planning, canoes, boating, lifeguards, etc.) and generate financial return. Outside professionals can also provide specialized functions (e.g. lease management).

Volunteers: Many public-service organizations, conservation groups, historic societies, school organizations, universities, and individuals can be used as resources. Strong organization and demonstrated public good should be prerequisites for volunteers.

A more complete list of potential funding sources can be found in Section D of the Greenway-Wide Recommendations section of this report.



Existing Features: *Natural Resources*

Natural Resources

Warren County occupies about 364 square miles in northwestern New Jersey. The county prides itself on its clean surface and groundwater supply, its untapped mineral resources, rich agricultural soils, and vast tracts of undisturbed forest and healthy wetlands providing habitat for thousands of species plants and animals.

Past human activity in Warren County resulted in the desecration of the original old-growth forests, eroded soils, and the introduction of exotic invasive species and the endangerment of beneficial New Jersey native species. Many involved residents now see the land as their greatest asset and work to protect their precious resources by limiting development and protecting open space and ecologically sensitive areas through land-use and planning measures.³⁸



The Morris Canal once emptied into the Musconetcong River at Saxton Falls.

Topography

Warren County straddles two different physiographic regions; the Ridge and Valley, and the New Jersey Highlands. Differences in these geologic regions are described in terms of their underlying geology and topographic relief. The section of the proposed greenway between its point of origin in Phillipsburg and the eastern side of Washington Borough is located within the Ridge and Valley province, which makes up the majority of the county and which is geologically composed mostly of sedimentary rocks such as limestone, conglomerate, dolomite, and quartz sandstone, creating fertile soils conducive to agriculture. The remainder of the greenway to the east is located in the New Jersey

Highlands province. The Highlands region in New Jersey has been identified as a Landscape of Special Significance by the U.S. Forest Service. The region is an essential source of drinking water for half of New Jersey residents and is recognized for its clean air, species diversity, and contiguous tracts of forested land and wetlands. It is protected by the New Jersey Highlands Water Protection Act, which limits many types of development and limits potentially environmentally hazardous activities.



View from within Allamuchy Mountain State Park
Image courtesy of www.mountainproject.com/v/allamuchy-state-park

³⁸ Warren County Environmental Resource Inventory. www.co.warren.nj.us/environment

Existing Features : *Natural Resources*

Water

Warren County has over 4,700 acres of water within its limits.³⁹ The largest body of water in close proximity to the proposed greenway is the 650-acre Merrill Creek reservoir, just north of the canal in Harmony Township. Another significant water body, Allamuchy Pond, lies within Allamuchy Mountain State Park just north of where the greenway passes. The greenway in Warren County is “bookended” on the west by the Delaware and on the east by the Musconetcong into which the historic canal emptied just before entering Morris County. A water body’s suitability for trout production is a very good indicator of its overall health and water quality, and the entire length of the Musconetcong River is reported to be well-suited for trout whereas the main stem of the Delaware River is not. Allamuchy Pond suffers from eutrophication caused by accelerated growth of aquatic weeds. Merrill Creek Reservoir is stocked with smallmouth bass and trout and is in reportedly good environmental health.



Merrill Creek Reservoir
Image courtesy NJHiking.com



Allamuchy Pond
Image courtesy www.panoramio.com

³⁹ Warren County Environmental Resource Inventory. www.co.warren.nj.us/environment

Existing Features : *Natural Resources*

Endangered or Threatened Species

Warren County's diverse geology supports a great variety of habitats and therefore has a high level of species diversity. However, because of habitat fragmentation, changes to habitat caused by natural succession and loss of breeding habitat, many native New Jersey wildlife species are threatened or endangered. A feature like a greenway could make public the plight of these species and the importance of protecting their diminishing habitats.



Bog Turtle
Image courtesy www.conservewildlifenj.org

Table 3-10: Endangered and Threatened Species in Warren County, NJ⁴⁰

Amphibians and Reptiles

Endangered	Threatened
Bog turtle (<i>Clemmys muhlenbergi</i>)	Long-tailed salamander (<i>Eurycea longicauda</i>)
Timber rattlesnake (<i>Crotalus horridus</i>)	Wood turtle (<i>Clemmys insculpta</i>)
Mitchell's Satyr (<i>Neonympha m. mitchelli</i> ***)	
Dwarf wedgemussel (<i>Alasmidonata heterodon</i> ***)	

Birds

Endangered	Threatened
Pie-billed grebe (<i>Podilymbus podiceps</i>)	Great blue heron (<i>Ardea herodias</i>)*
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Red-shouldered hawk (<i>Buteo lineatus</i> **)
Cooper's hawk (<i>Accipiter cooperii</i> *)	Barred owl (<i>Strix varia</i>)
Red-shouldered hawk (<i>Buteo lineatus</i>)	Red-headed woodpecker (<i>Melanerpes erythrocephalus</i>)
Upland sandpiper (<i>Bartramia longicauda</i>)	Cliff swallow (<i>Hirundo pyrrhonota</i> *)
Vesper sparrow (<i>Pooecetes gramineus</i>)	Savannah sparrow (<i>Passerculus sandwichensis</i>)
	Grasshopper sparrow (<i>Ammodramus savannarum</i>)

Mammals

Endangered	Threatened
Bobcat (<i>Lynx rufus</i>)	

Note:

- * = species status is currently being recommended for a change from endangered to threatened
- ** = non-breeding status is listed as threatened
- *** = federally endangered or threatened

⁴⁰ Ibid

Field View and Greenway Segments

Given the nature of the 25-Year Action Plan, it was critical for the planning team to spend a significant amount of time familiarizing themselves with the conditions and character of all parts of the greenway. As previously discussed, the project began with a guided tour of selected locations and highlights along the canal within Warren County that served as an introduction to the canal, its history, and its current status and importance within the county. This tour began in Phillipsburg and continued along the length of the canal to Waterloo Village in Sussex County. Along the way, stops included significant historic sites such as Bread Lock Park and Plane 9W. Other destinations visited were improvement projects, both ongoing and previously completed, similar to the Morris Canal restoration project between Route 22 and Strykers Road and several sections of completed greenway trail.

A bit later in the planning process, the planning team conducted an in-depth examination of existing conditions along the entire length of the canal and potential greenway routes. Another goal of this field work was to better evaluate the trail routing proposed by the TAC. Potential routes were evaluated based on their suitability for providing a safe and enjoyable trail experience; potential connections to historic, civic and commercial resources; current ownership status; and the routes' proximity to the historic route of the canal. The field view was completed over a period of three and a half days and generally moved from Phillipsburg to Allamuchy.

As the planning team completed the field view, it became evident that portions of the greenway possessed very different characteristics from one another due to their passage through different setting and environments. Some parts of the greenway passed through small towns and boroughs where the typical environment is built and developed, and sometimes rich with historic remnants and opportunities for interpretation. Other parts of the proposed greenway crossed large sections of farmland, wooded areas and open space where the main features of a greenway would be the surrounding wildlife, scenery, refreshing air, and quiet.

After a thorough review of current and relevant planning and preservation documents it was discerned that in addition to the physical differences resulting from location of the greenway, Warren County's preservation and acquisition efforts for different parts of the canal had been approached with different purposes. Because of the differences in purposes of preserved areas, it was determined that efforts for the greenway should be broken into segments similar in character to those essentially predetermined purposes. Greenway creation and preservation strategies for each segment would then be similar in nature and would help to better organize these regional efforts.

In some segments, the greenway or suitable alternative routes were already wholly or mostly in public ownership. In these instances, recommendations focused on specific details of trail routing, improvements to crossings, and further preservation of historic resources. In other segments, the historic route of the canal traverses a few large parcels for which a suitable alternative route has not been identified. In instances like these, recommendations focus on building partnerships with individual landowners to provide some sort of trail access. Finally, continual efforts from the Warren County Department of Land Preservation throughout the life of this project meant that the ownership of some parts of the proposed greenway was in constant flux as deals and agreements were made.

In addition to defining the greenway segments based on their physical characteristics and ownership status, the planning team also looked for potential connections to and destinations serviced within each segment. In some cases, potential connections were based on proximity to other historic resources, such as Edison's Valley View Estates development very close to Lock Street. Connections to business districts and commercial services also influenced the definition of individual segments, as did potential connections to schools, parks and other public amenities. The final consideration given to connections was the existence of destinations within each section of greenway. Given that it may

Existing Features: *Greenway Segments*

be a number of years before certain segments are connected, the planning team felt it was critical that each segment be able to stand on its own as a completed section of trail.

Additional characteristics and descriptions of the individual segments can be found in the recommendations portion of this report, along with corresponding maps in the Recommendations Maps section.

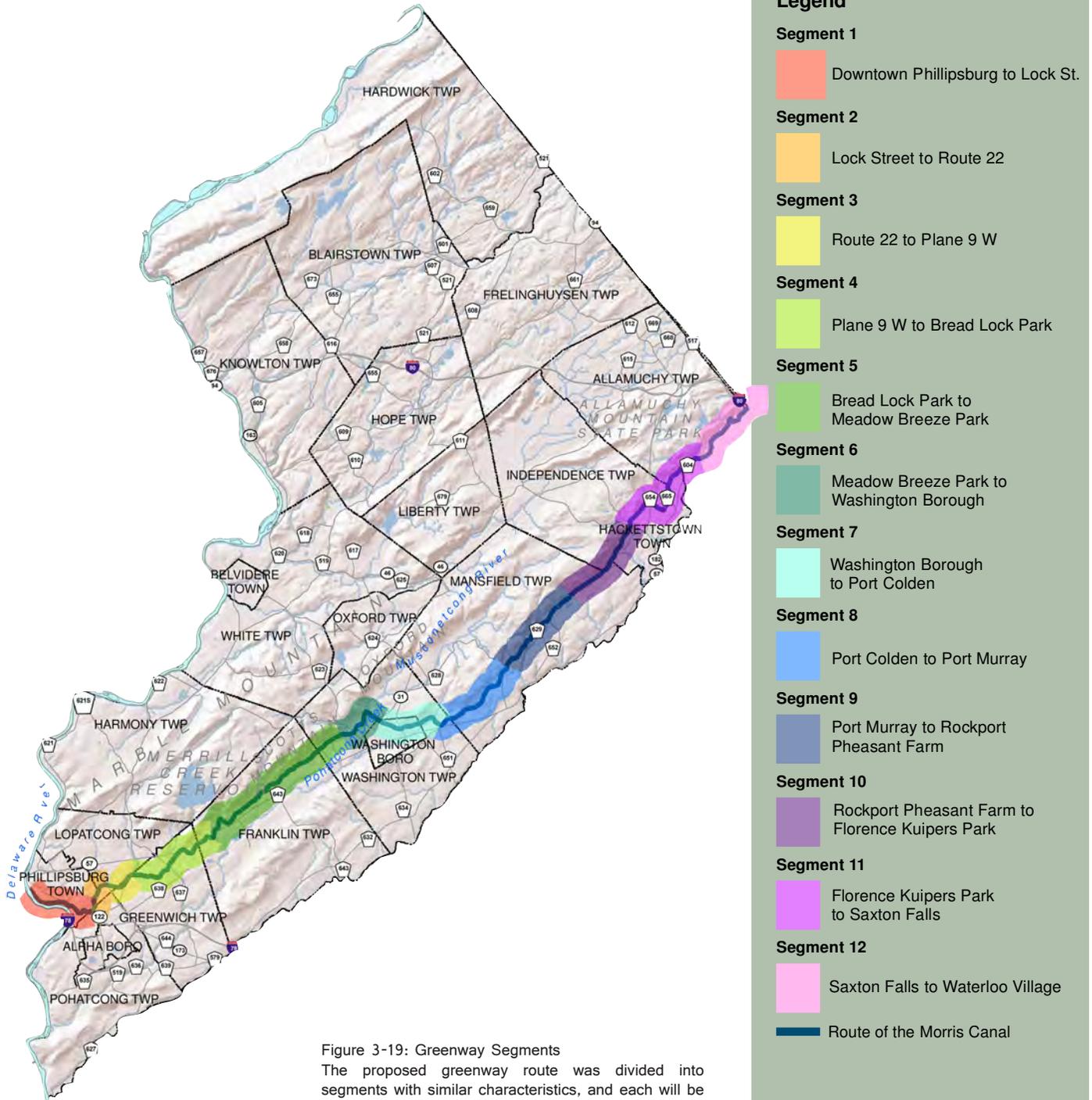


Figure 3-19: Greenway Segments
The proposed greenway route was divided into segments with similar characteristics, and each will be planned and programmed accordingly.

Historic Assessment and Evaluation

General Canal Aesthetics

Nineteenth century canals such as the Morris Canal were constructed in a manner and scale that corresponded to the materials and technology of the period. The aesthetic nature of these structures is a key element in a 21st century greenway. An article on the aesthetics of the Erie Canal⁴¹, provides a description that could have been written about the Morris Canal.

“A canal is an improbable alteration of nature. A trough of water is built where not only was there no water before but often in the most unlikely places—very commonly following along the brow of a hill. Yet, as we know, these highly artificial works of the 19th century sit easily and comfortably into the landscape.

Although little, if any, attention was given to esthetics [sic] in construction of the Erie (as distinct from structural workmanship), the intrinsic of the situation introduced elements of a pleasing design.

To reduce changes in level and to minimize the need for aqueducts or other stream crossings, the canal followed along a contour, winding up a valley and returning back down on the other side, to avoid a major crossing of the stream in the valley bottom. Cutting along the contour tended to produce an alignment in harmony with the landscape. Unlike wide rivers, where all beauty is derived from the water itself, when the stream or canal is narrow, it becomes only part of the composition of the surrounding landscape.

The dimensions and scales of the old canals were such that in a sense they fit the terrain—tucked, as it were, into the landscape. Those few canals, of the 19th century that continued in horse-drawn use until such recent times have grown old enough to have become part of the landscape. Amenity and recreational values of these canals seem to, have become treasured assets.”

The description continues:

“The relatively simple technology available forced the builders into greater conformity with the natural scene than modern builders find necessary. This accommodation to the environment led not only to such pleasant effects as the contoured sinuosity previously noted, but also the use of more natural structural elements such as the stone masonry of the locks and aqueducts. There is powerful esthetic appeal in handicraft.” (John Graves, personal communication)

Another description⁴² in this article refers to the Chesapeake and Ohio Canal from Washington, D.C. to Cumberland, Maryland. It states “it is a refuge—a long stretch of quiet and peace at the Capitol’s back door—a sanctuary where man can commune with God and with Nature.”

The greenway benefits of a canal after its abandonment must recognize that when canals were abandoned “most were simply drained to become open ditches...” (Titcomb, 1920)⁴³. Although some

⁴¹ 1972 quote repeated in *Hydrology and Environmental Aspects of the Erie Canal (1817-99)*. Geological Survey Water Supply Paper 2038. Burton. Accessed at <http://pubs.usgs.gov/wsp/2038/report.pdf>

⁴² 1954 quote repeated from *The Washington Post*, Oct. 1, 1972, p., Justice William O. Douglas

Existing Features: *Historic Assessment*

sections were refilled. “In the absence of an organized plan for disposal or protection the vacated lands were adapted to local purposes.”⁴⁴

In the case of the Morris Canal, this has been the case, making its reuse as a greenway more difficult. The canal’s linear character makes recreational travel a potential future use. Luckily, because of its original location, most of the towpath can be used as footpaths since it was not incorporated within local road networks.⁴⁵

Evaluation of the Canal

As part of data gathering, fieldwork was completed to compare the existing physical condition of the canal and related historic resources identified in the Historic Preservation Survey of the Morris Canal in Warren County by Brian H. Morrell. This field work inventory was not undertaken as a physical-conditions analysis, but rather as a review of resources in a broader sense, including community aesthetics, character and key vistas with an eye toward the resources’ ability to tell the story of the canal. Other key historic resources were also considered, including those in proximity to the canal that offer interpretative opportunities with regards to the history of Warren County and the historic context and cultural landscape of the Morris Canal. Historic resources were evaluated primarily by their individual significance, their contribution to the critical mass of sites, and their ability to enhance visitors’ experience of the canal.

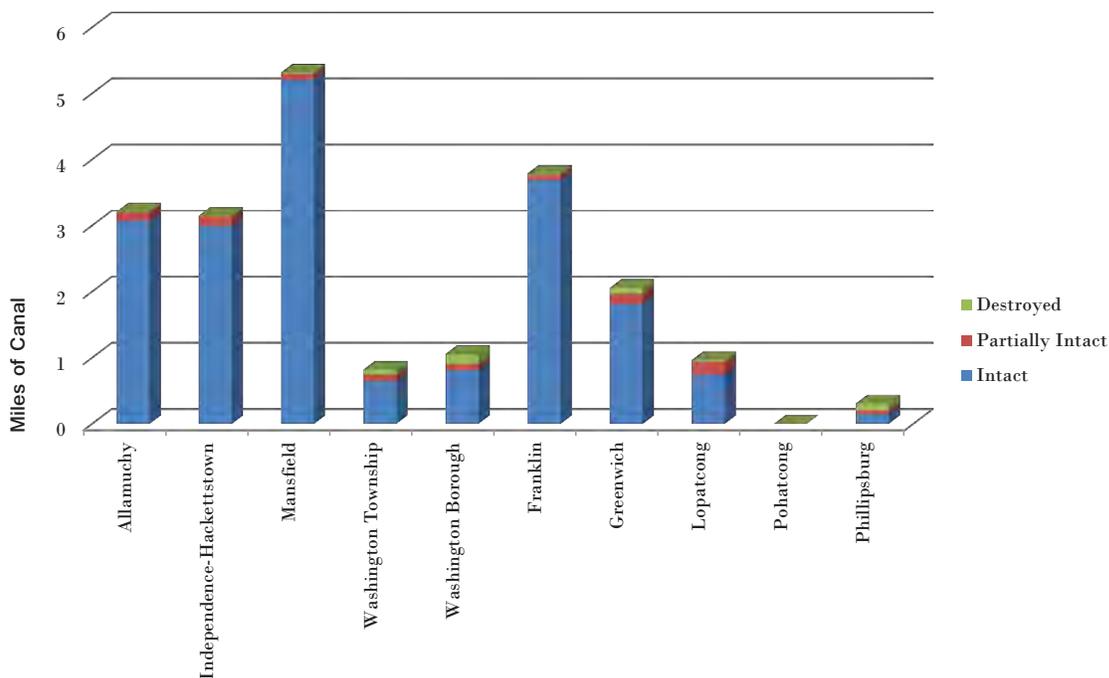


Figure 3-20: The condition of the canal prism in miles by municipality

⁴³ 1920 quote repeated in *Hydrology and Environmental Aspects of the Erie Canal (1817-99)*. Geological Survey Water Supply Paper 2038. Titcomb. Accessed at <http://pubs.usgs.gov/wsp/2038/report.pdf>

⁴⁴ 1916 quote repeated in *Hydrology and Environmental Aspects of the Erie Canal (1817-99)*. Geological Survey Water Supply Paper 2038. Burton. (Supt. of Public Works, 1916, p. 19-20) Accessed at <http://pubs.usgs.gov/wsp/2038/report.pdf>

⁴⁵ The Canal and the Environment <http://www.history.rochester.edu/canal/bib/langbein/canalenv.htm>

Existing Features: *Historic Assessment*



The site of James Mitchell's canal store in Washington Borough

The inventory highlights key structures and provides additional information to update and supplement information in Brian Morrell's historic preservation survey. There is a table with a brief description of remaining resources noted and described by Morrell in his extremely thorough survey which sought to document all canal-related resources. For the purposes of this 25-year county action plan, instead of simply documenting the existence of resources for the historic record, the field inventory evaluated sites through the lens of three criteria: the site's individual significance, its contribution to the critical mass of sites, and its ability to enhance visitors' experience.

The historic inventory "Morris Canal Survey Index," can be found in Appendix H of this report. A Physical Canal Conditions Map showing those parts of the canal and related historic buildings that are still intact, destroyed or partially destroyed or intact, and aesthetic features of importance is included in the Maps section of this report.

Evaluation of Canal-Associated Historic Resources

Historic resources associated with the Morris Canal can be broken down into several major categories, each with subcategories. In addition to canal-associated resources, the area surrounding the canal has numerous historic resources that enhance the cultural landscape and visitor experience, but which are not included in this specific evaluation. The main categories of canal-associated resources are shown below. Refer to maps 8 and 9 in the Appendix for physical locations of these historic resources.

Canal Structures

Canal structures are unique to canals and were built expressly as part of the canal. They include the inclined planes, locks, the canal prism, and various water-control devices, such as waste-weirs and aqueducts.

Canal-Related Buildings

These buildings were typically structures that obtain their significance not from any canal-related architectural elements, features or design, but from their association with the canal. These buildings include the plane tenders' houses, stables, and canal offices that were constructed as part of the canal system. Canal stores would generally fall into the category of historic buildings.



The site of the intact Rockport Boat Basin and former John B. Sliker Canal Store

Existing Features: *Historic Assessment*

Historic Buildings (in close proximity to the canal)

Although the canal passed through populated areas, a number of historic buildings may not have been constructed for canal activities. Over the years of the canal's operation, though, they may have had a direct or indirect association with canal activities. In addition, after the canal opened in 1831, it served as a magnet for development, and settlements began to develop at many of the canal's locks and inclined planes. Port Warren, one such settlement, developed near the bottom of Plane 9W. This settlement included a store, blacksmith shop, stable for mules, tavern, bridge over the canal, and several houses and farms.⁴⁶

Canal Structures

The Inclined Plane

It has been said that the Morris Canal probably would not have been built if the inclined plane—the most remarkable feature of the canal—had not been used. The planes saved both time and water over the conventional locks used so widely on other canals. Devised by James Renwick, Professor of Natural and Experimental Philosophy at Columbia University, these planes were based on a similar method used in England.

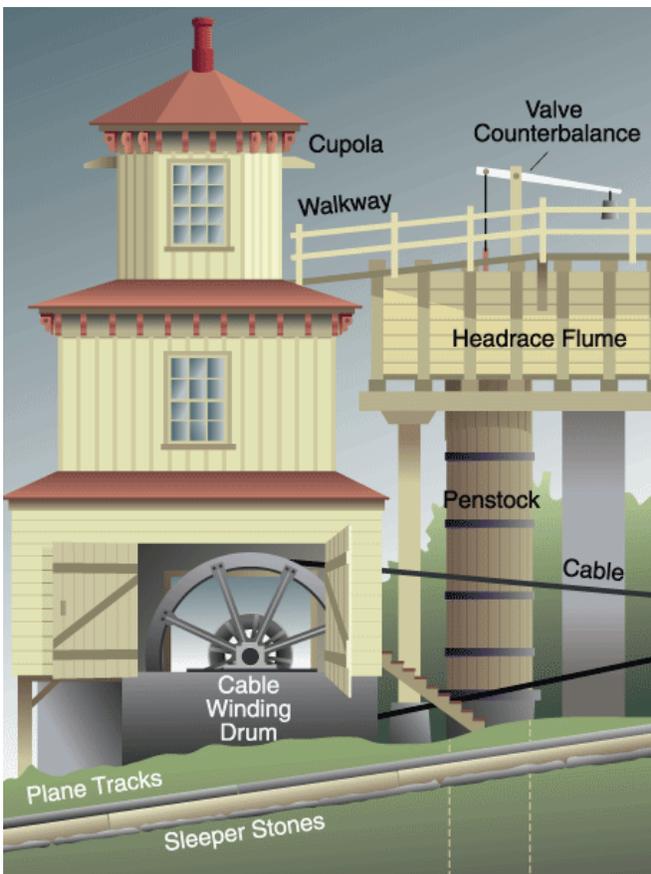


Diagram of a powerhouse which drove the inclined plane. Image courtesy Morris Canal Greenway interpretive signage accessed at morriscanal.org

The inclined plane was “one of the engineering wonders of America,” wrote Alvin F. Harlow in Old Towpaths.⁴⁷

“It was the highest climber of all the old canals. Within the distance of 51 miles from tidewater at Newark Bay to the summit level at the tip of Lake Hopatcong the channel climbed 914 feet. Thence it dropped again, 760 feet to the Delaware River at Phillipsburg, opposite Easton - a total rise and fall of 1674 feet in a trifle over 90 miles. Had locks, with the limited lift of those days, been depended upon for all this, between two and three hundred of them would have been required. This would have been prohibitive.

The surmounting of the height difference was considered a major engineering feat of its day, accomplished through 23 locks and 23 inclined planes. The planes were essentially short railways that allowed canal boats to be carried in open cars uphill and downhill, the plane cars being driven by a water-powered winch. The use of such devices had advantages over locks for large elevation changes in that they did not require the large amount of water needed by a ‘staircase’ of locks and required less time to travel the vertical distance.”

⁴⁶ Port Warren, Myra Snook http://morriscanal.org/plane_9w.htm

⁴⁷ Old towpaths: the Story of the American Canal Era. Kennikat Press, 1964, page 196.

Existing Features: *Historic Assessment*

The inclined planes allowed for large changes in elevation. The canal boats floated onto a cradle car and were then winched (on rails) up a hill to the higher elevation. The chain (and later cable) was pulled by a water wheel at first and later by a huge water-powered turbine. A plane tender who lived nearby worked the plane whenever a boat came through. Within Warren County, there were seven planes: 5W through 11W. The codes that appear after the name of each lock and plane are used for reference in the Morris Canal Survey Index which can be found in Appendix H of this report.

The critical elements in assessing the integrity of a plane site include evidence of the cradle, the turbine system, and the associated tender's house.



Tailrace and location of the power house of Plane 10W

Plane 11 West (WMC #192)

This plane served as the entrance to the Morris Canal, allowing coal-carrying boats to enter the canal from the Delaware River into Phillipsburg, overcoming 35 feet in elevation change. Little remains of this plane since it was no longer used and allowed to deteriorate after the abandonment of the Delaware River cable ferry in the 1880s. Remaining elements of the plane include the stone top of its wheelhouse foundation, which is significant as this wheelhouse structure was unique to Plane 11W. The plane's incline was filled in and is now located under the railroad tracks, a landfill, and a public park. Archaeological endeavors are unlikely for this part of

the plane.⁴⁸

Plane 10 West (WMC #159)

While not matching Plane 9W in its ease of interpretation and historic context, Plane 10W still represents a significant historic resource. Significant remnants of the plane are still visible, including the sleeper stones, retaining wall, and a small basin at the bottom of the original plane.

Plane 9 West (WMC #151) Stewartville

Plane 9W Turbine and Tailrace tunnel are the most intact representation of the historic engineering that makes the Morris Canal so unique. This plane it is the longest and highest along the entire canal making it a valuable site for restoration and interpretation.

At Port Warren, this longest and highest plane on the canal changed 100 feet in elevation. It was 1,510 feet long to its summit and 1,788 feet long from water to water. "The three-tiered plane house, from which the plane tender in his turret at the top could see for miles across the rolling Phillipsburg hills into Pennsylvania, must have stood like a solitary castle among the surrounding fields and pastures," according to The American Society of Mechanical

Engineers (ASME). On June 2, 1979 the ASME held a dedication ceremony at Plane 9W commemorating designation of the Reaction-Type Hydraulic Turbine as a National Historic Mechanical Engineering Landmark.⁴⁹



The tailrace at Plane 9W

⁴⁸ <http://sections.asce.org/newjersey/history.html> and http://morriscanal.org/plane_9w.htm

⁴⁹ Reaction-Type Hydraulic Turbine CA. 1850 Plane 9 West, Morris Canal, The American Society of Mechanical Engineers, Stewartville, N.J. June 2, 1979.

Existing Features: *Historic Assessment*

Another interesting fact about Plane 9W is that it was a double-track. Two sets of tracks meant that two cradles could move two boats at the same time, one coming up and one going down. The other double-track planes along the Morris Canal were at Port Colden (Plane 6W) in Warren County, and at Newark (Plane 12E).

The property on which Plane 9W was built was purchased in 1947 by James Lee Sr., one of the foremost authorities on the Morris Canal. Lee “set about restoring the plane tender’s house and preserving the other remaining relics of the Morris Canal on his property.”⁵⁰ A photo in the publication shows Lee involved in the incredible task of digging out the boulder-filled chamber where the turbine lay buried. In 1972, Lee and his work crew reached the turbine, some 24 feet down, “somewhat damaged by the tons of debris that had fallen on it, but...still in remarkably good shape considering the circumstances.”

“The chamber of carefully fitted stones begins at the ground surface, on the top of a knoll, and drops underground as a sixteen-by-five-foot rectangular opening; between depths of about eighteen feet and twenty-three feet the opening enlarges to a vaulted room, nearly hemispherical in shape, and drops another six feet to the floor.

The turbine sits at the center of this hemisphere-capped circular chamber, nearly covering all the floor area. An arched tunnel leads out from this room, running slightly downhill, and emerges at the ground surface in the middle of a field a good distance below the site of the plane house foundation. This was the tail race, which carried the water from the turbine out to the level below.

The turbine can be viewed through a grating at the ground surface twenty-nine feet above the floor of the stone chamber. It can also be seen by traveling through the underground tail race. The story of Lee’s rescue of the turbine and other artifacts only enhances the story of the canal itself.”⁵¹

Plane 8 West (WMC #142)

The site of Plane 8W in Greenwich Township is very important to preserve due to the number of buildings still standing on the site as well extensive archaeological remains of the plane itself. Buildings on site include the planetender or brakeman’s houses - one at the head and foot of the plane, another canal-related dwelling at the foot of the plane and a modern occupied house. The Shillinger Mill, currently operating as a feed mill, still stands on an adjacent property.

⁵⁰ Ibid

⁵¹ Reaction-Type Hydraulic Turbine CA. 1850 Plane 9 West, Morris Canal, The American Society of Mechanical Engineers, Stewartsville, N.J. June 2, 1979.



Foundation of the penstock at Plane 9W



Parts of the Scotch Turbine displayed above the chamber at Plane 9W



Plane Road and the gentle rise in the background denote the location of Plane 8 W. The actual historic site is behind the tree line.

Existing Features: *Historic Assessment*



Plane Hill Road is built on the location of Plane 7W

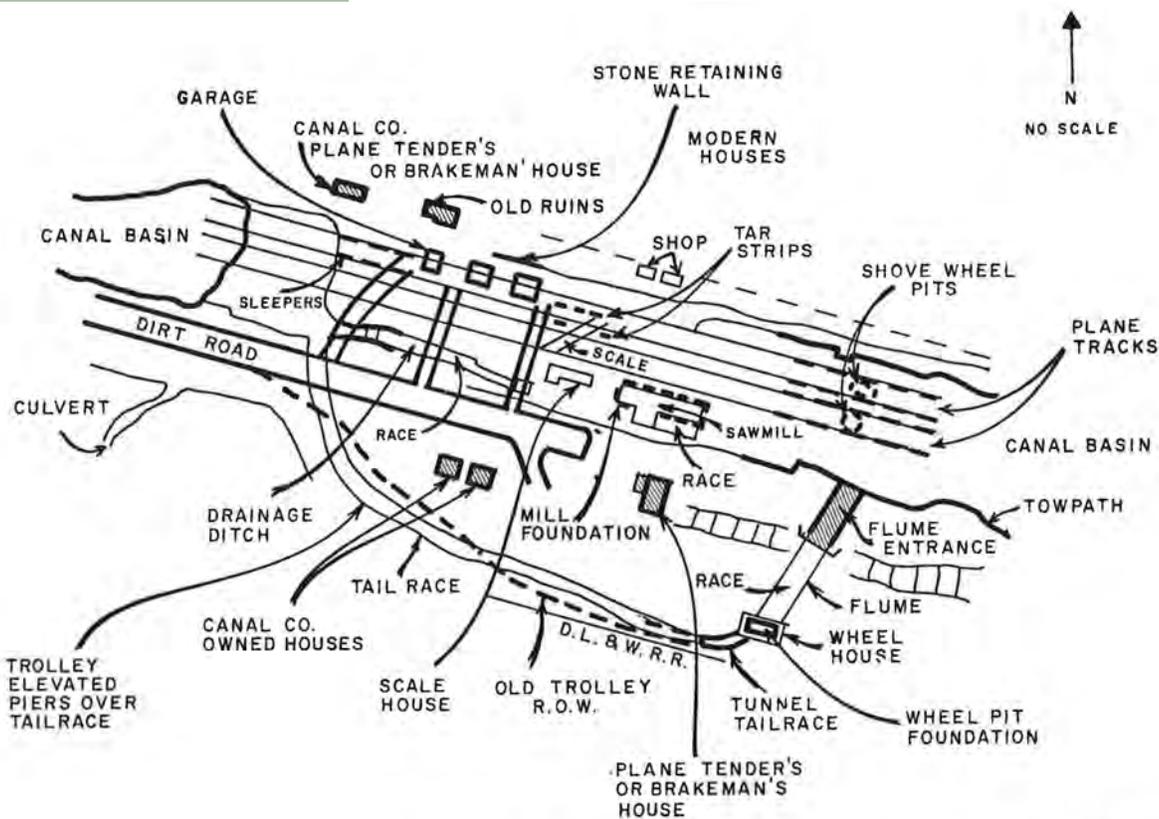
Although other Morris Canal inclined plane sites still have standing canal-related buildings and dwellings, this is the only one where both a standing planetender's house and brakeman's house can be seen. The adjacent mill, which was once powered by water from the plane, is also of great historical importance.

Plane 7 West (WMC #100)

Very little of Plane 7W remains and there is no surface trace of the basin at its head. After the canal was abandoned, the plane's wheelhouse and flume were demolished and the wheel pit was filled in. The site has been greatly affected by the relocation of Plane Hill Road on top of it. Construction of Plane Hill Road involved placing fill on the plane tracks. However, there remains a well-constructed aqueduct carrying Plane Hill Road over the Pohatcong Creek and an extant plane tender's or brakeman's dwelling.

Plane 6 West (WMC #78)

Plane 6W at Port Colden was one of only two double-tracked planes in Warren County. In terms of technological innovation, it was the first plane on the canal to change from chains to steel rope (cable)



Historical alignment of buildings and associated features of Plane 6W. From Brian Morrell's Historic Preservation Survey of the Morris Canal in Warren County

PORT COLDEN DOUBLE PLANE PLANE 6 WEST BASED ON C. 1890 CANAL COMPANY WEIR SURVEY, TRANSIT BOOK 2

EXISTING FEATURES OUTLINED IN THICK LINE.

Existing Features: *Historic Assessment*

to pull the boats. This change occurred after two serious accidents in which the chain broke, killing several people. Built in 1830, this plane had a 10-foot lift. When the canal was dismantled in 1924, the plane was filled in and covered with lawn. The former lock tender's house is still nearby.

This property was not reviewed in detail because of accessibility issues. Inspection did not reveal a great deal of physical evidence. According to the Brian Morrell historical survey, the site included plane tracks that paralleled a dirt road and which partially extended beneath houses (Morrell, p. 122). The planetender's house was in poor condition with no exterior siding (p. 123). The existing canal-related features were noted as two former canal company-owned houses near the head of Plane 6W, (p. 124) in addition to a flume entrance, wheel-pit foundation, and two plane tender's or brakeman's houses. (Map p 127).

Plane 5 West (WMC #71)

Just southwest of Port Murray, Plane 5W is located in an abandoned clay quarry. Most of its parts have been removed. However, the basin at the head of the plane remains in tact and evident, as well as its wheel pit and stone wheelhouse foundation. Although these features have deteriorated due to prolonged exposure to the elements, effects of the clay mining business, and lack of maintenance, they are not in danger of collapse and could be preserved.



Plane 5W.
Image courtesy the Canal Society of New Jersey

Locks

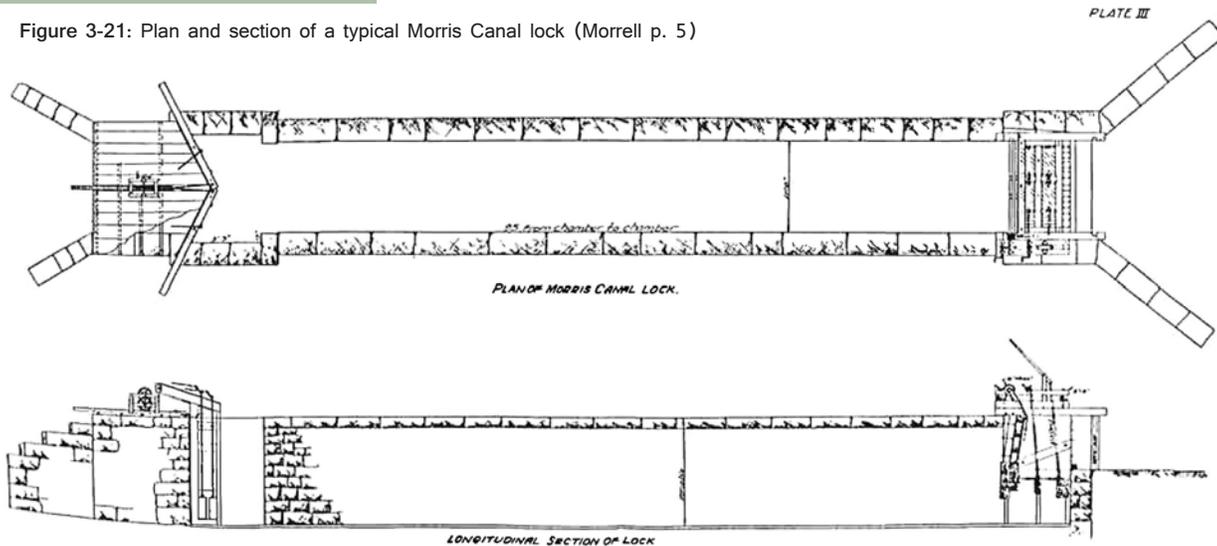
After the inclined plane, the next unique or notable canal-related historic resource is the lock. There were seven locks in Warren County, beginning with Lock 10 in Phillipsburg and ending at Lock 4 at the northeastern border of the county. Like an inclined plane, a lock is an engineering device for raising and lowering boats between stretches of water at different levels as though the boats were ascending or climbing a series of steps.

Morris Canal locks consisted of a fixed chamber in which the water level could be varied. Stone sluiceways about 90 feet long and 11 feet wide were controlled by wooden gates that were opened and closed by hand. Locks were typically used where the elevation to be overcome was less than that requiring an inclined plane (generally around 10 to 12 feet). At the head of a lock, the water level was controlled by a drop gate. This gate, operated by the lock tender, could be swung down into a pocket in the bottom of the lock to allow boats to enter. In addition to the box structure of the lock itself, lock sites typically included a locktender's house. Where the canal met the Delaware and Musconetcong Rivers, there were guard locks. A guard lock is a non-lift type lock which controlled flood waters during periods of heavy rain and protected the lift locks from being damaged.⁵²

⁵² <http://www.rideau-info.com/canal/history/locks/terms.html>

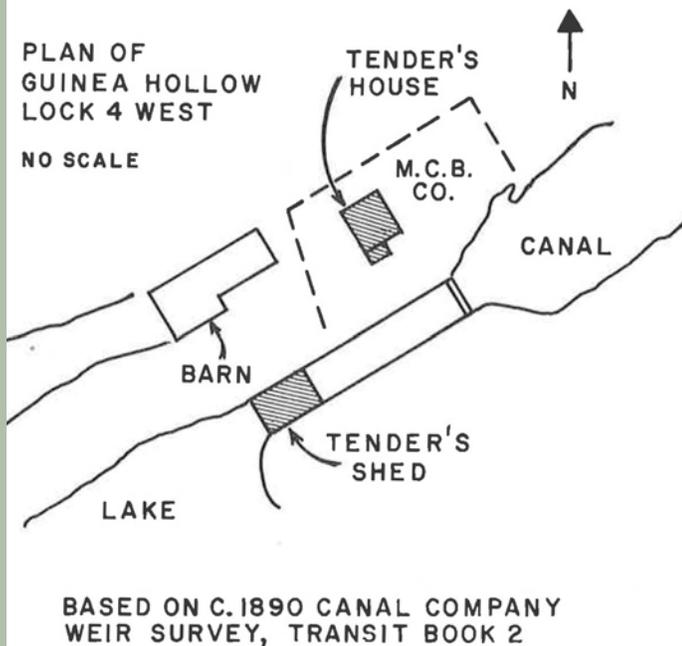
Existing Features: *Historic Assessment*

Figure 3-21: Plan and section of a typical Morris Canal lock (Morrell p. 5)



Lock 4 West (WMC #8)

Lock 4W is located along Waterloo Road and the Musconetcong River. It is currently a vacant property within the Allamuchy Mountain State Park, consisting of the former locktender's house and buried remains of Lock 4W. After the canal was abandoned in the 1920s, the lock was filled in and the house sold. The executive summary of a Feasibility Study: Lock 4 West – Guinea Hollow & Lock 5 West – Saxton Falls of the Morris Canal⁵³, says that the house was modified and added to after its sale. The house was subsequently abandoned in a state of disrepair. The context of the site has been further impaired because of its use as a staging area for roadwork along Waterloo Road that resulted in piles of gravel and soil around the house. The lock is buried, and based on archaeological investigations, it is in poor condition. It appears to have been compromised at the time of dismantling and was further breached by later owners as modifications were made to the site and the house.



Historical alignment of buildings and associated structures of Lock 4W. (Morrell p. 37)

The lock covered a 10-foot change in elevation and opened at its west end to the Musconetcong River. Lock 4W included the locktender's house and a stable or barn. According to historic maps, the original house appears to have been small and square but was expanded after the 1890s. During its period of use, the lock site also contained a frame locktender's shed.

In addition to its historic associations, the site is currently an active boat launch for recreational boaters.

⁵³ Feasibility Study: Lock 4 West – Guinea Hollow & Lock 5 West – Saxton Falls of the Morris Canal. HJGA Consulting March 29, 2011 Final

Existing Features: *Historic Assessment*

Lock 5 West (WMC #9)

Lock 5W is a more complex site than Lock 4W. It includes a dam and once contained more structures to support canal operations. Because of its period of use, the property included the lock, a store, the lock tender's house, and a number of outbuildings. Unlike the canal, the Musconetcong River was a natural water body that was manipulated at Lock 5W by the construction of a dam to create Saxton Lake to allow slack-water navigation for approximately 0.8 miles between Locks 4W and 5W. After the original dam was destroyed by a flood, a new one was built within a few feet of the original. The elements remaining today include the lock, parts of the towpath, and a section of the canal. Lock 5W is a guard lock; therefore, there was little change in elevation between the river and canal. Lock 5W, inclusive of dam operations, was a pivotal part of the canal operations.



Remnants of Elsie's Tavern at Lock 4W

Locks 4W and 5W, within the Allamuchy Mountain State Park, are part of a large recreational area open for fishing, boating, and hiking.⁵⁴

Lock 6 West (WMC #85)

The remains of Lock 6W can be found on a grassy residential property just west of the edge of Port Colden village. Several features of historical import remain including a bypass flume, concrete culvert, as well as the locktender's dwelling, which is currently occupied. Like most of the lock's features, its stone walls are largely destroyed and can be discerned only by those who know what they are looking for. Even in its demolished state, the site of Lock 6W could prove to be an important archeological site.



A quiet residential lane occupies approximate location of inclined plane 6W.

Lock 7 West - Bread Lock Park (WMC #135)

Bread Lock Park in New Village is one of the jewels of the greenway. Lock 7W near New Village was known as "Bread Lock" and "Fresh Bread" because a store there sold bread, pies and other goods to the boatmen. Because canal boats had no refrigeration and almost no space to store supplies, fresh provisions were purchased daily, and a lock tender often supplemented his income by selling supplies while boatmen waited at the lock for the water-level change. The lock was also known at various times as "Gardner's Lock."

The elevation change for this lock was 10 feet, and because it took about 10 minutes to go through the lock, mules could rest. When the canal was closed for the night, mules could be stabled in the barn adjacent to the canal.

⁵⁴ Feasibility Study: Lock 4 West – Guinea Hollow & Lock 5 West – Saxton Falls of the Morris Canal. HJGA Consulting March 29, 2011 Final

Existing Features: *Historic Assessment*

Images of Bread Lock Park



Remains of the locktender's house



Replica canal boat



The museum at Bread Lock Park

At the head of the lock the water level was controlled by a drop gate. This gate swung down into a pocket in the bottom of the lock to allow boats to enter. The winch to raise the gate into the closed position can be seen to the right in front of the locktender's house. A porch roof often covered the machinery and protected the locktender from the weather.

Today, this site is owned by Warren County and is open to visitors during the daytime. Visitors also can enjoy the Warren County Historical Learning Center, which tells the story of the canal. This site also includes a model of a partial canal boat.

Historic resources on the site include a section of the canal with its stone retaining walls, ruins of the locktender's house and a barn. Bread Lock Park is one of the key interpretative features of the Morris Canal in Warren County. In addition to the canal-related resources, the park provides an outstanding vista of the surrounding countryside. The County is attempting to get an access easement to a lime kiln on a property behind Bread Lock Park. The kiln is located about 200 feet from the property line.

Lock 8 West (WMC #164)

Located along Lock Street within Pohatcong Township, the site of Lock 8W sits on a residential property with the bank of the Lopatcong Creek directly behind it. Remaining features of the lock include an intact locktender's house, largely intact stone walls of the lock below ground level, and likely remains of two sheds near the locktender's house.

Lock 9 West (WMC # 167)

Much of this lock is no longer visible as part of the site is paved over by what is now Lock Street and another part was buried under a grassy residential side yard. The locktender's house is still standing although several additions have been added. The house, probably built around the time of the canal opening, currently serves as a modern dwelling. Another small building existed on the site that is postulated to have been a small store for canal workers. Archaeological expeditions may turn up more information.

Lock 10 West (WMC #172)

Lock 10W once paralleled South Main Street and the Lopatcong Creek in Phillipsburg which actually combined with the canal at this point to serve as a bypass

Existing Features: *Historic Assessment*

channel for the Lock. A 1-1/2 story locktender's house, canal store, and two-family dwelling once existed on the site but have since been demolished, and few archeological remains will likely be found as the whole site has been graded towards the creek. Another part of the site has been paved over by the driveway of a roofing company. The stone walls of the lock are likely in tact below ground level, although little else remains of this lock.



Remnants of the boat basin in Port Murray

Other Significant Canal-Related Structures

Canal Archway (WMC #193)

On the canal's western end, at Phillipsburg, a cable ferry allowed canal boats to cross the Delaware River to Easton, Pennsylvania, and travel up the Lehigh Canal to Mauch Chunk, in the anthracite coal regions, to receive their cargoes from the mines. The archway where boats exited the river and began their eastward journey is a key physical remnant.

Structures at Port Warren and Related Sites (WMC #152, #153, #154)

Port Warren developed near the base of Plane 9W. This area included a store, blacksmith shop, stable for mules, a tavern, a road bridge over the canal and several houses and farms.

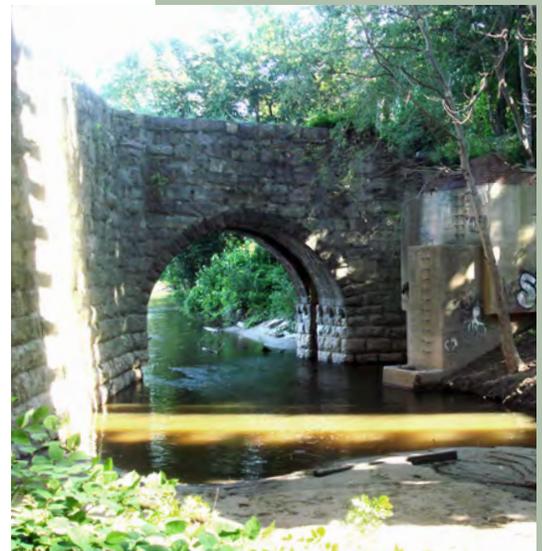
WMC Site #152 is a stone abutment that marks where a road, the predecessor of present Route 519, crossed the canal. The abutment on the opposite side of the former road has disappeared.

WMC Site #153 is the Cline Canal Store site. It includes the Cline Canal Store ruins and existing canal owner's house, which, according to Morrell's historic preservation assessment, has been somewhat altered so it is a conditional contributing structure.

WMC Site #154 is a former canal stable that is in a grouping of frame barns on a hillside on the northwest side of Route 519 opposite the Plane 9W site. The stable originally sat downhill from its present location right next to the canal bed at Port Warren. Morrell noted that it was vacant and allowed to deteriorate.

Small canal-related structures

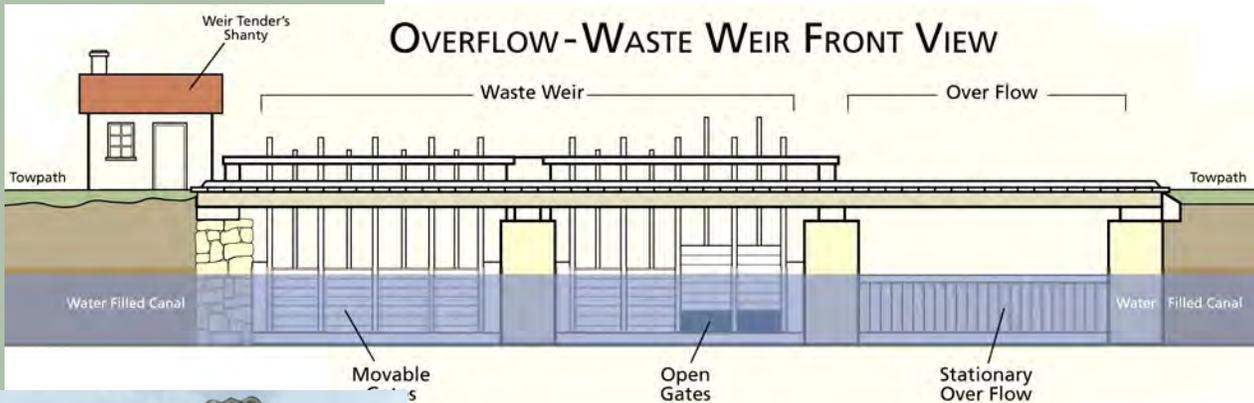
A large number of the canal-related structures were functional elements of the working canal. These structures include extant



Morris Canal Arch

Existing Features: *Historic Assessment*

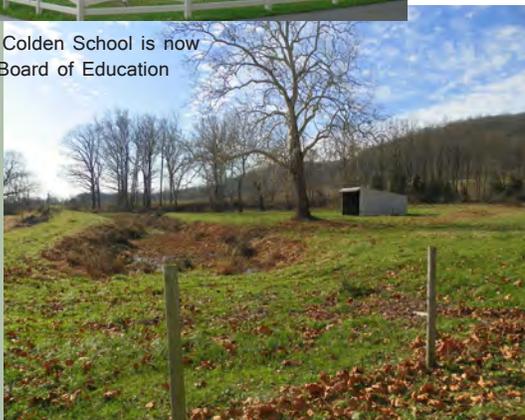
parts of the canal bed, canal prism, weirs, culverts, aqueducts. There are a number of sites where former weirs can be seen as stone walls along the banks of the now unused canal prism. A few aqueducts and similar structures show great artistic skill; others are quite utilitarian with little aesthetic appeal. All of these structures relate to the canal's original construction or later alterations made in response to the increased traffic demands during the canal's active period. Today, although individually disparate and of little interest as "destinations" or active heritage tourism sites to the average tourist or citizen, collectively these structures serve as visual reminders of the important role the canal played in the area's economic and social development during the 19th century.



The old Port Colden School is now owned by the Board of Education

The Waste Weir

A waste weir was a mechanism used to drain excess water from a canal. When floods were forecast, weirs were used to drain water to prevent overflow that could erode banks and create a breach. Weirs also allowed for draining when repairs were necessary or to protect the canal and its mechanisms from frozen water in winter. Weirs were also useful for reducing the high water to allow boats to pass beneath low bridges.



There is evidence of the canal prism on both sides of Millbrook Rd.

Millbrook Road Aqueduct and Associated Canal Prism (WMC #127)

The Millbrook Road Aqueduct was constructed to carry the canal over a stream (which provided power to Warne's Mill). Originally, it was a timber structure on stone abutments that was enlarged. Only two abutments remained when surveyed by Brian Morrell for his Historic Preservation Survey of the Morris Canal in Warren County, New Jersey. Little evidence of the abutments remains. There is minimal visible association with the canal.

There is evidence of the canal prism visible in both directions from Millbrook Road. The eastbound direction is more wooded while the westbound direction goes through agricultural land.

Existing Features: *Historic Assessment*

Other Canal Related Resources

Port Colden

The Port Colden Historic District is another significant historic resource near the canal that offers interpretative opportunities with regard to the history of Warren County and the historic context and cultural landscape of the Morris Canal.

Port Colden presents an example of a canal-related resource with other associated buildings that have a less distinct or direct canal association. It was listed in the National Register of Historic Places on January 21, 1999. The canal-related resources include a boat yard, canal basin, and the Nunn-Skinner Canal Store.



Evidence of the canal prism on both sides of Millbrook Rd.

Boat Yard

The boat yard was located adjacent to the boat basin for construction and repair of canal boats. In 1860, the boat yard was owned by A. Gaylord and by 1878 consisted of five buildings. A blacksmith shop, a wheelwright shop and a brickyard were located nearby. According to the “Census of Products & Industry” in 1870, annual products included five new boats worth \$4,750 and repairs equaling \$11,050. The boat yard was closed by 1898. This area is now used by the present school as a parking lot and playground field.

Morris Canal Basin

This hand-dug area was one of the five large basins on the Morris Canal in Warren County. It was watered and in use for the canal from 1852 to 1924. Both in summer and winter, the area around the basin was a hub of activity for Port Colden and the surrounding area. The basin was built for use as a turnaround spot for canal boats, a place to wait to go through the lock, and a place to tie up boats for repairs or for storage in winter. In 1931, after it was emptied, the present Port Colden School was built on the site.

Nunn-Skinner Canal Store

This store was built in the 1850s on property owned by Cornelius Stewart. The A.M. Nunn family bought it in 1862 and owned it until 1908 when it was bought by George Skinner. Hardware, dry goods and other commodities were sold in the store to canal boatmen and to local residents. Because of its success, the store was nicknamed “The Wannamaker of Warren County.” The top story was removed in 1925 and subsequently the building was remodeled as apartments.

Port Colden Manor

William C. Dusenberry acquired this property in 1835 and built the “Port Colden Hotel” in 1836. He also erected a chapel behind the building. Reportedly the hotel was built as a summer resort. By 1842, it was sold by

Existing Features: *Historic Assessment*

the sheriff. For a time, the Episcopal Church operated a boarding school for children in the building, calling it St. Matthew's Hall. By 1880, the building was again being used as a hotel and hangout for ruffians called the "Ebro House." By 1884 it was a private home known as "Wykoff Manor." Since then, it was abandoned for a time, became a private home again in 1955, and then in 1986 was converted into offices. Today the building appears vacant and in need of rehabilitation.



Old Port Colden School

With its monumental two-story portico and its location near Route 57 and the Port Colden Historic District, this building appears to present a key opportunity to be used as part of the greenway experience.

Old Port Colden School

This is a restored brick school was built in 1869 on the bank of the Morris Canal. The school is surmounted by a large belfry and the façade is highlighted by segmental arch openings and a round window in the gable.

Port Colden Methodist Church

The present church was built in 1893 on land donated by Simon W. Nunn. It is an L-shaped wood frame building with a bell tower entrance in the angle of the wings. It is highlighted by variegated shingle siding and pointed windows. Except for two additions, the church remains mostly the same as originally built and is used today.



Port Colden Methodist Church

Port Colden School

The present school was built in the old canal basin in 1931, 100 years after the start of the canal. It was built as the Washington Township Consolidated School consolidating the five township schoolhouses into it.

Dusenberry House

In 1831, William C. Dusenberry constructed this house for himself across from the Port Colden Hotel.

Woolston House

The Woolston House is reputed to be the first house in the Port Colden area. It is believed to have been constructed in 1765 by Newbold Woolston. As such, it predates the Morris Canal. This beautiful old stone house is still standing near the old trolley barn.

Trolley Car Barn

In 1906, a trolley line was built by the Easton-Washington Traction

Existing Features: *Historic Assessment*

Company to operate from Phillipsburg to Port Murray. The route generally followed that of the Morris Canal and the Morris Turnpike (Rt. 57) but passed through the center of each community along the way. Port Colden Manor was one of 33 stops on the line. A powerhouse and four-track car barn was constructed at Port Colden. This concrete structure was built with material from Thomas Edison's Portland Cement Company in New Village. The building served as the maintenance, storage and administrative building for the trolley line. Operation of the trolley was short lived because of the invention of cars and ceased in 1925. At present, the building is used as a trucking company garage.⁵⁵



The Joseph Campbell House

Evaluation of Additional Structures

The Morris Canal was a part of an existing cultural landscape when it was constructed, and its construction had a profound impact on that cultural landscape in that it influenced development in the area through which it passed. This section of the plan includes evaluation of structures acquired by Warren County and a listing of significant structures noted as being eligible for the National Register of Historic Places or of statewide significance (refer to Appendix B for NJDEP - Historic Preservation Office New Jersey and National Registers of Historic Places list). A number of other historic sites that were in proximity to the canal or along roads that travelers would take in experiencing the canal were also noted.

Evaluation of Additional Structures Acquired by Warren County

One of the tasks of the plan was to “look at the additional structures obtained as a result of the County’s previous land acquisition efforts to determine which of these additional structures could be used to support administrative, interpretive, recreational or maintenance activities associated with the canal”. With the exception of the 162 East Washington Avenue property, all of these properties are canal-related resources and are discussed within the body of this section of the plan.

Warren County-Owned Properties

1. Plane 10W
2. Plane 9W - entire site including the house
3. The waste weir that is between Strykers Road and CR 519
4. The “Stine House” on CR519, across from Plane 9W.
5. Bread Lock Park.
6. Florence Kuipers Park (foundation).
7. The “Brickyard”
8. 162 East Washington Avenue, Washington Borough.

⁵⁵A Walking Tour of Historic Port Colden <http://www.washingtontownshipschools.org/walkingtour.pdf>

Existing Features: *Historic Assessment*

Table 3-11: Existing Canal-Related Historical Resources in Warren County

Resource	Evaluation	Potential for Interpretation
Plane 10W	Plane 10W still represents a significant historic resource. Significant remnants of the plane are still visible including the sleeper stones, retaining walls, and a small basin at the bottom of the original plane.	While not matching Plane 9W in its ease of interpretation and historic context, it presents extensive interpretive opportunity.
Plane 9W - entire site including house	Master Plan for Inclined Plane 9W August 1, 2003, by Herbert J. Githens, Historic Architect and Preservation Planner	The park presents limited administrative, interpretive, recreational or maintenance use.
The waste weir between Strykers Road and CR 519		Limited administrative, interpretive, recreational or maintenance use.
The "Stine House" on CR519 across from Plane 9W. The Youth Corps is currently located at this site.	The Stine House property includes not only an historic house, but a large timber frame and masonry barn and a large timber frame and masonry equipment shed/corn crib.	The site's proximity to Plane 9 can be an asset for recreational use. The site is not a canal-related resource, but if the county determines that the rehabilitation of the barn is a viable project, it can has potential of maintenance use.
Bread Lock Park	Historic Preservation Plan for Bread Lock Park (February 22, 2003) by Herbert J. Githens, Historic Architect and Preservation Planner outlines potential improvements.	The park presents limited administrative, interpretive, recreational or maintenance use.
Florence Kuipers Park (foundation)	The trail and a foundation of the canal store lies along a public road. The trail is actively used.	The proximity of the site to public street is a benefit for an interpretive site, but the site lacks parking.
The Brickyard	The site is newly acquired by the county. The inclined plane was cut into providing what amounts to a "cross section." There are some other structures in need of further documentation as to number and original functions.	This site has long term potential for interpretive use.
162 East Washington Ave., Washington Borough. - 19th Century Residence	The house at 162 East Washington Ave., was evaluated as being significant on 3/1/94. This building was originally the home of William Shields, a prominent 19th century resident associated with the Delaware, Lackawanna & Western Railroad. In this century, the house was remodeled for use as a commercial building; and, in the 1960s, it was the Elks Hall.	The building is currently occupied and it does not appear to present a high priority to support administrative, interpretive, recreational or maintenance activities associated with the canal.

Existing Features: *Historic Assessment*

Evaluation of Additional Non-Canal Related Resources

The municipalities through which the Morris Canal passes contain a number of historic districts and historic sites. Many of these sites, including the Morris Canal, have been evaluated as being eligible for historic designation. Many of the non canal-related sites are in close proximity to the canal and provide a historic setting for the canal. These resources, in addition to the critical canal-related resources, include those in the following list:

(See the Historic Resources Maps under Study and Recommendations
PHILLIPSBURG

Dormida House, (SHPO opinion 9/16/83)

Located on Carpentersville Road.

Doughty House, (SHPO opinion 9/16/83)

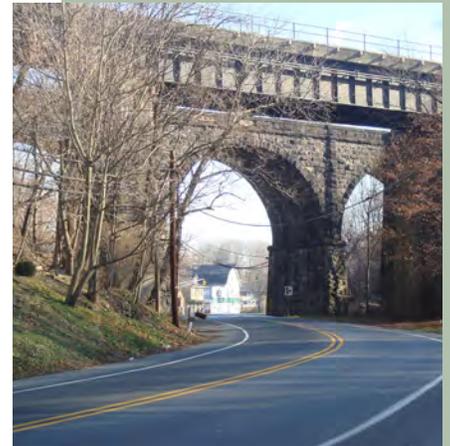
Located on Carpentersville Road.

Vargo House, (SHPO opinion 9/16/83)

Located on Carpentersville Road.

Green's Bridge (WMC # 175)

The Morris Canal once flowed under a large, stone, arched train bridge in Phillipsburg. The bridge was built around 1860.



Green's Bridge

GREENWICH TOWNSHIP

Stewartsville Village Historic District (SHPO opinion 8/27/92)

This early 19th century village was an important social, trade, and transportation center for rural Greenwich, which then was the largest municipality in Warren County, occupying almost two-thirds of the county. This village was a crossroads where the Morris Canal, the state's first turnpike, and the New Jersey Central Railroad met.

Muchler House, (SHPO opinion 1/8/99)

On Route 57 where it crosses Merrill Creek, and near the Morris Canal, this house is contained within the roughly 4-mile long Stewartsville Historic District.

Schillinger House Site (SHPO opinion 1/8/99)

Also known as Schillinger's Mill, the site is in the former village of Coopersville at the juncture of Lows Hollow Road and Route 57. It dates from the late 1800s.

Existing Features: *Historic Assessment*



The Georgian-style mansion is now used as an animal hospital.

Georgian Mansion

2420 Route 57, Greenwich

This is a large Georgian mansion house that appears underutilized, but which has features distinctive of the period. There is a large Pennsylvania-style bank barn on the property, as well. The property is used as a veterinary office.

Stewartsville Farm House

North Main St., Stewartsville

Located on preserved land between the historic district in the village of Stewartsville and the canal store on a preserved farm is a classic federal-period farm house. It is highlighted by main entrance with a federal fanlight transom protected by a carved pediment, a round, arched gable window located between paired brick chimneys and a recessed kitchen wing with a double porch.



Stewartsville Farm House

FRANKLIN TOWNSHIP

McKinney-Wolfe Farm

Route 57 West of Whites Road

The house on the McKinney-Wolfe farm has a plaque that reads: John McKinney Home - Stone home built 1805 on part of the 500-acre William McKinney homestead. John McKinney served as a private in the American Revolution. Placed by Peggy Warne Chapter NSDAR 1976.

The barn is a multisection structure showing the architectural history of agricultural buildings with an 18th century style English stone ground barn at its core. The barn has narrow ventilation slits in its gable. The main wagon doors fit into an arched opening. There are two projecting wings forming a U-shaped courtyard facing Route 57. The easterly wing is a gable roof, wood-frame barn with a hooded gable. The western wing is a 20th century gambrel roof structure.



The McKinney-Wolfe Farm

Warne Mill (WMC #127)

An example of a significant historic resource that originally was not canal related but later became associated with the canal is the Warne Mill property.

Because of this linkage to the canal, this site was included in the Morrell book.

Existing Features: *Historic Assessment*

The Warne Mill is a grist mill on the north side of Route 57 in Broadway, west of Washington. Sometime after the death of Benjamin Warne in 1810, his widow, Hannah McKinney Warne, replaced the original mill with the current three-story stone structure. The Morris Canal was constructed and passed through the north side of the Warne property. It brought cheap and dependable transportation of goods to the area. “Hanna made provision for a flow of water from the canal to the mill, probably for insurance during dry spells.”⁵⁸ The property includes the mill, a fine stone house and a number of other barns and other structures.



Warne Mill

WASHINGTON TOWNSHIP

Bowerstown Historic District (SR 3/13/96, NR 5/10/96)

When the Morris Canal was completed in 1831, Jesse Vanatta built an iron foundry north of Washington Village on what is now Old Bowerstown Road. There he manufactured cast-iron plows, iron hardware, and pots and pans. Being near the Oxford Furnace and across the road from the Morris Canal, he had easy access to iron and transportation. The stone foundry building is now occupied by the Warren Hills Board of Education. Around the corner, down Plane Hill Road, stands the huge stone ruin of the Peter Van Doren grist mill (1838). The mill was built along Plane 7W, which raised Morris Canal boats 73 feet by carrying them up the plane slope on railroad cradles. In 1870, the mill did \$92,000 worth of business, but railroads soon began to eclipse the canal. The old brick house nearby was built at the same time.⁵⁶ Despite modern development, the hamlet retains its rural feel and the Pohatcong Creek still rattles through the mill race.

Pleasant Valley Historic District (SR 12/20/93, NR 2/18/94)

West of Washington Borough off Route 57, this charming group of buildings along scenic, winding Mill Pond Road includes the Sherred Mill (1790) on Pohatcong Creek, which was rebuilt on the original foundations after a fire, and the Sherred House (circa 1790), where the miller lived.⁵⁷

MANSFIELD TOWNSHIP

Port Murray Historic District (SR 4/26/96)

The Morris and Essex Railroad (built in 1850) and the Morris Canal (completed in 1831) passed through this village on the western edge of the township. Since this was the only railroad station in the area, Port Murray became the most important village. The upper section of the village retains

⁵⁶ Historic Sites of Warren County, p. 20, www.co.warren.nj.us/Download/historic.pdf

⁵⁷ Ibid

⁵⁸ Run of the Mills, Frank Dale, Skylands Visitor, <http://www.njskylands.com/tnmills.htm>

Existing Features: *Historic Assessment*



Watters Farm

the aspect of a compact village surrounded by open country. Remains of the canal include a section with water and parts of the towpath. The railroad station still stands and is being restored, along with three row houses built for dairy workers at the turn of the century. The village's neighborhoods contain good examples of regional vernacular architecture from the early 19th to the early 20th century, as well as some of the more formal styles of the second half of the 19th century. The Port Murray site was first surveyed in 1752.

Watters Farm

Watters Road and Route 57, Mansfield Township

The Watters farm complex is one of the most picturesque collections of agricultural buildings along the well-traveled Route 57 in Mansfield Township.

HACKETTSTOWN

Hackettstown Historic District (determination of eligibility 9/26/79)

This district encompasses the 19th century hub of the town, spanning from Main to Jefferson Street and from Water to Liberty Street. Although the historic district is not specifically canal-related or adjacent to the canal, it does provide a destination offering numerous historic resources and visitor amenities.

Visioning and Public Process

A Vision for the 25-Year Action Plan

A critical part of any planning process is establishing a vision, one that clearly describes the desired destination in a manner that is easy to explain to others who might wish to contribute to the cause. Ideally, vision statements succinctly summarize this destination in a single sentence. According to *Making the Grassroots Grow*¹, good vision statements:

- “Are inspiring, compelling and bold, raising our expectations and our actions to a higher purpose;
- Embody our values and gives us courage to express those values to our communities, and;
- Conjure up a similar picture for all parties involved to help coordinate their efforts.”

The TAC reviewed the following “Greenway Vision” used by the Warren County Morris Canal Committee in its informational brochures for a number of years in light of this recommended approach:

“Warren County has become a leader in the protection of the remnants of the Morris Canal by promoting a greenway corridor and preserving the historic remains of the Canal as an important part of the County’s transportation history.

The vision is to have this greenway extend across Warren County with the canal as a link to recreational, cultural, and historic areas including state park trails and municipal and county public open space. This greenway will extend between



Looking down the tailrace at Plane 5W, also known as the Brickyard

¹Making the Grassroots Grow: Building and Maintaining Effective Byway Organizations by Anne Tellett, Kevin Skwira-Brown and Cheryl Newman. America’s Byway Resource Center. 2003

Visioning and Public Process

the proposed New Jersey Transportation Heritage Museum in Phillipsburg and the historic Waterloo Village – a restored canal town.

In some places the towpath will become a recreational trail open to the public for non-motorized activities. In other places pocket parks will be established for the public's enjoyment. When completed, this greenway will be a living reminder of the County's transportation heritage while promoting the economic benefits of cultural and heritage tourism.

Warren County offers a wide range of recreational opportunities and its rural nature and scenic beauty are worthy of long-term preservation."

This "Greenway Vision" acknowledges the accomplishments of the County in preserving significant stretches of the canal and describes some components of the completed canal preservation project. However, this vision is insufficient in that it does not adequately explain how the "Greenway Vision" will be achieved and is missing the framework for action needed to encompass all desired outcomes, in addition to being lengthy. The TAC acknowledged the difficulty in simplifying the vision statement due to the size and complexity of the Morris Canal and recognized that aspects of the statement were outdated, such as the reference to the Transportation Heritage Museum in Phillipsburg that has not materialized. Over the course of two meetings, the TAC developed a vision specifically tailored to the 25-Year Action Plan as noted below:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

- Highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals;
- Tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.
- Interconnects communities and links points of interest by serving as a continuous greenway of open space across the county;
- Provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience;
- Stimulates the local economy through heritage tourism;
- Leverages the value of the canal to support sound land use planning decisions; and
- Increases public and private support for and involvement in canal preservation efforts.

In contrast, the new vision statement provides the necessary framework for the 25-Year Action Plan and outlines a number of important concepts. The opening section calls attention to the fact that the canal is valued for its unique engineering design and contribution to our national history. Equal emphasis is placed on preserving the canal and the surrounding landscape that provides context. The TAC firmly believes that preservation should be accompanied by interpretation and enjoyment of the canal resources as outlined in the central section of the vision, which explains how people and their communities will be able to interact with the canal. The final section of the vision expresses the TAC's desire for the 25-Year Action plan to engage new partners in future preservation activities.

Visioning and Public Process

The vision's text is not organized according to importance, although preservation is obviously a pre-requisite for all of the other components of the statement. Instead, the vision allows the County to undertake various elements of the 25-Year Action Plan simultaneously with the understanding that these components are related in many ways and that advancing one component of the vision is likely to benefit other components as symbolized in Figure 4-1.

However, it is unlikely that every aspect of the vision statement will be realized along the entire length of the canal. Each segment of the canal will have different features that are better suited to supporting certain aspects of the vision statement over other components. The goal is to utilize the vision statement to focus efforts on maximizing the potential of the Morris Canal for the public good.



Figure 4-1 - Interrelated Elements of the Vision for the 25-Year Action Plan

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Opportunities and Constraints

Over the course of two meetings, the TAC identified specific opportunities and constraints pertaining to each individual element of the new greenway vision. An opportunity was defined as an existing feature or resource, whether physical, human, regulatory or sociological, that could itself aid or be directly involved in accomplishing part of the greenway vision. A constraint was defined similarly to an opportunity, but it was a feature or resource which in some way impeded the development of the greenway. For example, using the existing historic features along the canal such as the locks and inclined planes to tell the story of the canal is an obvious opportunity for interpretation and an important part of the vision statement, while the current lack of volunteers to aid in interpretation is recognized as a constraint. A complete list of opportunities and constraints corresponding to each segment of the vision statement can be found in Appendix F.

The goal of listing specific opportunities and constraints was to identify the key resources available and the major impediments to fulfilling the greenway vision. Methods to capitalize on existing opportunities or overcome existing constraints served as the basis for the project strategies and recommendations discussed elsewhere in this report.

Public Involvement

The vision statement, in conjunction with the opportunities and constraints, provided the foundation for the public involvement process. This information provided the stakeholders, focus groups and general public with insight into the direction of the 25-year action plan and helped to focus the discussions for each meeting. Following is a brief discussion of the information presented and the general themes of the feedback attained.

Stakeholder Meeting #1

The first meeting of stakeholders, in September 2011, gathered county and municipal elected and appointed officials as well as representatives from key agencies and organizations. A complete list of attendees can be found in the meeting minutes in Appendix C. The meeting began with an overview of the project to date, including: an explanation of the visioning process and recurring themes; discussion of the opportunities and constraints exercise as well as identification of several examples; and an overview of key findings of the fiscal analysis. Utilizing the following four questions for facilitation, discussion was then opened to feedback from those in attendance:

- What benefits to you or your organization/community would you hope to gain from the continued improvements to the Morris Canal Greenway?
- How do you or your organization/community currently interface with the Morris Canal Greenway, and its assets?
- In what ways would you or your organization/community be able to support the goals of the Greenway?
- Are there any items, opportunities or issues surrounding the Greenway which you feel this plan should absolutely address?

The attendees agreed that preservation efforts should result in a canal that not only is protected as a historic resource but is also developed and maintained to serve as an educational resource for schools, a recreational resource for a variety of outdoor activities, an environmental resource as a greenway and water feature, and an economic resource that attracts tourism revenue. The group felt

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that a canal with multiple functions would more likely generate broader public support than if the 25-Year Action Plan only focused on historic preservation. The participants saw considerable potential in the Morris Canal interconnecting communities in Warren County and expressed an interest in working together to preserve the canal in order to link cities and towns across New Jersey and connect with the Delaware and Lehigh Canals in Pennsylvania. Some attendees were anxious to start opening up sections of the canal to public towpath trail access as soon as possible with little or few enhancements, while others suggested a more cautious approach to insure that the canal is not opened prematurely without proper consideration of appropriate design standards and the public's needs and expectations.

The group agreed that the entire canal does not have to be preserved in order for the public to benefit from those sections that can be protected and enhanced. All of the participants felt that steps should be taken to better publicize the canal to improve local knowledge of this important resource. Any educational programs for school students should explore the many facets of the Morris Canal and cover a wide variety of topics in keeping with core curriculum standards. Many participants offered to assist with the 25-Year Action Plan by coordinating their land use planning, canal preservation, natural and historic resource conservation, education, economic development, transportation and fundraising activities with Warren County.

Focus Group Sessions

In December of 2011, representatives of specific focus groups were gathered for a roundtable type discussion to solicit ideas and input about the greenway's impacts or contributions to each representative's organization. The four groups invited to the meeting consisted of representatives from businesses, nonprofit organizations, public schools and local governments. A complete list of those in attendance can be found in the meeting minutes in Appendix C. The discussion began as a single group, providing those in attendance with a general overview of the project and vision developed by the TAC. After this presentation, the attendees separated into smaller groups based on their affiliation. Due to low attendance, the nonprofit and business groups were combined into one. Discussion within each group was then facilitated by one of the members of the planning team, utilizing the same questions provided to the stakeholders, as well as questions pertaining to the interest of each group. Specific questions for each focus group can be found in the minutes from this meeting, located in Appendix C.

Businesses and Nonprofits

Discussion within the business and nonprofit focus group focused on three main topics: cross promotion of cultural and historic assets with other similar attractions; using technology to expand the canal audience; and increasing local awareness and support for the canal and greenway.

Participants indicated that the Morris Canal audience and support could be expanded by utilizing the resources and supporters of other similar historic and cultural resources within the region, such as Shippen Manor and Waterloo Village. These attractions share user groups with similar interests to those to the Morris Canal, but are maybe not informed of its close proximity. Promotional materials and canal publications provided or sold at gift shops could also facilitate this cross promotion. In a similar fashion, promotion of other resources at canal events and locations would provide similar expansion of audience in reciprocation. It was also suggested that targeting local or specialty bookstores and retail outlets along the length of the canal would provide the general public additional opportunities to be exposed to canal-specific literature.

In addition to drawing on other attractions to promote the Morris Canal and expand the audience, the business and nonprofit focus group discussed ways in which emerging technologies

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could be leveraged to promote and interpret the canal. Much of this discussion revolved around the capabilities of smart phones and the Geographic Positioning Systems (GPS) many of these devices are equipped with. Two main strategies emerged from this discussion. The first was to use these technologies for self-interpretation of the canal and related resources. It was recommended that this could be accomplished using a quick response code reader, or QR reader. QR reader barcodes could be located on signage around key interpretive locations. A visitor scanning the barcode with their smartphone would be linked to video or text providing the story. The second strategy was to capitalize on the GPS capabilities of smartphones. This could be something simple such as providing GPS locations of historic resources. It was suggested that the GPS capabilities of smartphones may also expand the market of the canal and greenway by attracting other user groups such as those involved in geocaching.

The final topic discussed within this focus group was concentrated on finding ways to increase local awareness and support for the canal and greenway. It was felt that newer residents within Warren County did not know about or appreciate the significance of the Morris Canal. The key theme to this discussion was, if future canal investment – whatever form this may take – is to be embraced by local residents, then a more concerted marketing and education effort needs to take place promoting the benefits of the canal and greenway to local residents and businesses. The suggestion was made that this could be an ongoing campaign starting in the schools and continuing in other public venues. It was also suggested that Warren County Technical School has the capability to engage students to produce a DVD which could help in this information campaign. A short documentary introducing the public to the significance of the Morris Canal would be a good starting point for new residents.

School Educators

The school educators primarily focused on the Morris Canal as a unique local educational resource and ways to better capitalize on it. The group agreed that the most effective ways of communicating the story of the canal were through one-on-one interactions with an interpreter and hands-on experiences. The group then concentrated on how to integrate the Morris Canal into school based educational programs and curriculum.

It was pointed out that few schools utilized the Morris Canal as an educational resource but that there was a direct relationship to a school's proximity to the canal and their awareness and appreciation of it. They felt more should be done to integrate the canal into the overall curriculum for school students and identified two main challenges which must be overcome to improve integration. These concerns revolved around making sure the lessons about the Morris Canal were correlated with state academic standards and getting teachers involved in the curriculum development process.

The educators felt that using the canal as a basis for interdisciplinary lessons could be a very effective way of expanding the learning opportunities. Classroom exercises exploring such topics as people/daily life, physics/math/engineering concepts, utilization of natural resources, local economic impacts, town character, and modes of transportation could be combined with field investigations incorporating hands-on activities.

With regard to field studies, the group felt it was critical to identify and have curriculum linked to key nodes and attractions for field trips, as well as sections of the canal which were easily accessible. The historic Port Colden School and Waterloo Village were both identified as examples of potential interpretive sites. It was also felt that restored features, such as a locktender's house, or working or watered sections of the canal would provide more flexibility in the number and types of lessons that could be presented.

The participants expressed their willingness to serve on a committee to assist the WCMCC in developing educational programs for school use. The group indicated that the participation of the

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Warren County Educational Specialist and County Superintendent of Schools would be critical to the success of this program. They indicated this proposal should be presented at the monthly roundtable meeting of school officials, as this was the most effective location to reach this large audience. The idea was also presented that a tour offered directly for teachers, possibly providing continuing education credits, would be a good method of building interest and excitement within the educational community.

Local Governments

Discussion of the local government focus group circulated around two main topics: the Morris Canal Preservation Ordinance (MCPO) and regional coordination of canal preservation efforts. It was determined that the majority of communities along the length of the canal had not adopted the ordinance and of those that did, many did not enforce it. Members identified reasons they felt not all communities adopted or supported the MCPO. Primary reasoning was that the ordinance was perceived to not be aligned with other municipal priorities and it was perceived in some locations as being ‘anti-development.’ The group discussed ways in which the ordinance could be revised to make it address these concerns. Recommendations focused on creating provisions in the ordinance which made preservation of the canal and provision of public access more beneficial to developers. Density bonuses for preservation of the canal were one item identified to accommodate this. It was also pointed out that the regulations of the Highlands Planning Area may hinder these approaches in some areas.

After the MCPO, the second topic discussed in the local government focus group was the regional coordination of canal preservation efforts. According to the group, better coordination required two main strategies: better informed local officials and continual coordination of regional efforts. The group identified that fact that many of the local elected or appointed officials have a general lack of knowledge about the canal and its associated resources. Some of this could be alleviated with the provision of a tailored brochure or information package distributed to new officials and possibly canal tours as well. The group also pointed out that one person locally who served as the spokesperson for the canal and related resources would be an effective way of ensuring new members were exposed to the canal in some way.

The second portion of the regional coordination efforts centered on the actual coordination efforts. Municipalities are currently dependent on County Planning staff for promotion and consideration of canal-related topics. A more consistent coordination of these efforts and goals would be helpful to promoting the canal. To foster this, the group suggested that a Morris Canal working group comprised of local planning board representatives and County Planning staff would be good venue to discuss regional and local issues surrounding the canal from a planning and decision maker standpoint. The local planning board representative to this group would also provide a voice for the canal in local decisions and could become the source for canal related information at the local government level. This person could also serve as the voice for local greenway and canal concerns on the regional level. It was felt that although this program could provide a large amount of benefit to the overall goals of the greenway, it did face some hurdles. Primarily success of this program would require a large amount of continued cooperation and involvement by municipal governments. Additionally, this continued cooperation and involvement may have the benefit of increasing canal awareness and fostering ownership.

Public Open House #1

An open house was held in December 2011 to for members of the general public to provide input on the proposed vision for the 25-Year Action Plan, and a follow-up article about this

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event appeared in a local newspaper. Many of those who attended this event had a past or present relationship with the canal as a resident along the canal, a member of the Canal Society of New Jersey or as a person with family members involved in the operation of the Morris Canal or other canals in the region. (See Appendix C for a complete list of attendees). As a result, the open house provided a forum for these individuals, who were genuinely interested in the canal, to share their canal experiences with the county representatives and consultant team members at this event.

In addition to the informal exchange of information described above, participants were asked to review each component of the proposed vision for the 25-Year Action Plan and respond to two questions associated with each component. The results revealed that the attendees felt that many canal features should be preserved, most notably Waterloo Village and the arch in Phillipsburg among others. When asked what features might be the most interesting to others, the participants indicated that a restored inclined plane “would be an awesome educational tool” and that other attractions would be a Canal Day event, boat ride, or tour. They felt that there were many important educational stories that could be told about the canal covering such topics as how the canal was built and maintained through hard work, family life along the canal, the growth and development of local villages and the controversial decommissioning process. To them, the canal is worth visiting because it is a unique engineering achievement and its history is so thoroughly intertwined with the establishment of many communities. The public involvement in canal preservation efforts would increase if these activities were promoted through the schools and through local newspapers, radio and television broadcasts and websites.

The attendees were in favor of the county’s efforts to create a greenway along the canal, as long as the privacy of homeowners along the canal was respected, and felt that the greenway should include those historical elements that contribute to the story of the canal. Participants were in favor of their municipality adopting land use polices to help preserve the canal, such as a model ordinance or conservation incentives.

With regard to recreational opportunities, the participants saw hiking, biking, wildlife observation, ice skating, picnicking, canoeing and kayaking as compatible leisure activities along the canal. Although the attendees would be willing to drive a car to access a trail for recreational purposes, they preferred having a direct pedestrian connection to a trail.

Ideas for heritage tourism attractions included the restoration of an inclined plane, organized trips, and opportunities to hike, mountain bike and visit local lakes. Several suggestions were made to adaptively reuse the deteriorating Port Colden Manor as a bed and breakfast, restaurant, canal office or other use as another feature.

Stakeholder Meeting #2

The second stakeholder meeting was held in March 2012 to update county and municipal elected and appointed officials and representatives from key agencies and organizations on the project activities and to discuss key investigations, findings and recommendations. (See Appendix C for a list of attendees). The participants offered a variety of comments about the plan ranging from probing questions about canal facts that were previously unfamiliar to them to problem solving ideas. A number of suggestions related to finding local “boosters” or “champions” who could help implement the recommendations in their communities and the importance of engaging many potential beneficiaries who may have different but compatible interests in preserving the canal. The group stressed the importance of partnering in leveraging resources to implement the action plan. In discussing the many challenges involved in implementing the 25-Year Action Plan, the attendees agreed that it is easy to overlook the simple steps that can be taken to begin making progress toward achieving the goals of the plan. They felt that there will come a “tipping point” in time when the positive results of implementing the 25-Year Action Plan will overcome any remaining obstacles to its completion.

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Public Open House #2

The second open house for the general public was held in March 2012 and attracted an entirely different group of residents from the first open house, many of whom lived along or near the canal and had been asked to provide input on the 25-Year Action Plan through a survey of land owners. (The complete list of attendees can be found in Appendix C). The participants were asked to review and provide their opinion on a sample of the proposed recommendations associated with the various elements of the vision statement. Unlike the first open house, very few written comments were provided by the attendees. Instead, the participants spent most of the time engaged in friendly conversation with the county representatives and consultant team members about specific questions related to canal preservation activities. Many were interested in finding out about proposed plans for preserving the canal near their home or neighborhood, especially due to their concerns about security, liability, trespass and privacy. Several individuals expressed an interest in allowing the county to purchase their land to preserve a section of the canal, while others volunteered to help implement the 25-Year Action Plan and were anxious to utilize a towpath trail for recreational purposes. As a result, the event opened new lines of communication between the county and residents in a very constructive way that illustrated growing public support for the project. Media representatives from local newspapers, radio and television covered the meeting.

Land Owner Survey

To solicit input from land owners along the greenway in an anonymous and convenient fashion the planning team and County Planning staff prepared a web based survey. Information on the survey was provided to land owners, as identified by tax information possessed by the county, whose property contained or was directly adjacent to the Morris Canal. A total of 340 land owners were contacted and 59 responded via the internet or by provision of a hard copy for representation of 17.3%.

Questions on the survey were broken down into several main categories: familiarity with the canal; canal preservation efforts; effect of the canal on property; concerns about greenway creation; greenway benefits; and general demographic questions. Respondents were also provided several opportunities for open-ended input on specific items, as well as an open forum for comment at the end of the survey. Respondents interested in pursuing preservation or access agreements with the county were also provided the opportunity to include contact information. Results of the full survey can be found at the end of this report in Appendix I.

More than 91% of the respondents indicated they were at least somewhat familiar with the history of the Morris Canal and 76% knew the canal was present on or adjacent to their property at the time of purchase. 63% of respondents indicated they rarely used the canal on or adjacent to their property for recreational purposes. 55% of respondents felt that the canal or related resources on their property possessed historic value, 30% did not feel this was the case and 15% were unsure. When asked the question about how the presence of the canal affects land values, 30% felt the canal increased the value of their land, 21% felt it detracted and the remaining 48% felt it had no impact.

Of the total respondents, six indicated interest in pursuing preservation of the canal or provision of public access through their property through the sale of land or easements. The remaining respondents were asked to identify the primary concerns they would have with preservation or access rights to the canal on their property. The top five reasons for not allowing preservation or public access were: loss of privacy (77.1%); security concerns (70.8%); liability concerns (64.6%); effects on property value (60.4%); and inconvenience. Loss of privacy, security, and liability were also themes echoed by land owners attending other public forums as primary concerns about

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implementation of a greenway trail. Respondents were also asked if there were specific measures that could be implemented to address their concerns regarding these topics. 68% indicated that there was nothing which could be done. Many of the comments in the open ended response to this question identified specific concerns about the proximity of the canal to the residence located on the property as a critical part of this stance.

Questions also focused on preservation of the canal and its related resources as a county wide effort. 62% of respondents felt the Morris Canal was worth preserving and promoting as an educational resource used to reach local history to students and 58% felt it was a valuable symbol of Warren County's heritage.

The survey ended with a section to determine general characteristics and demographic information of the respondents. 77% of those who completed the survey have lived in Warren County for greater than 10 years, with 69% in the same location for this duration. The greatest number of respondents resided in Washington Township (32%), Mansfield Township (32%) and Greenwich Township (19%) and 90% of the total indicated the use of their property as single-family detached residence.

Based on the results of the survey, considering the information discussed above and input to the open ended questions, land owners along the canal are polarized in their support for or against establishment of a greenway and associated trail. One respondent pointed out that canal preservation and greenway/trail creation are two very different goals and the results seem to support this. More land owners supported preservation of historic resources than the creation of a trail. Of those residents that did respond favorably to creation of a trail or preservation of historic resources on their property, almost all indicated a desire to be involved in the shape of the greenway on their property.

Economic & Public Benefits

Public & Economic Benefits of the Morris Canal Greenway

Just as the Morris Canal once linked the coal regions of Pennsylvania with urban markets in New Jersey and New York, the Morris Canal Greenway can interconnect today's communities along its path. This physical connection, in addition to the significant potential for public collaboration in implementing the 25-Year Action Plan, can strengthen social ties, stabilize neighborhoods and increase community involvement in positive ways, according to The Trust for Public Land.¹ These quality-of-life factors are key to retaining and attracting residents and businesses and can have a direct impact on the vitality of an area and associated property values, according to The Trust.²

Creation of the Morris Canal Greenway and implementation of the recommendations in this report will provide public and economic benefits on a number of levels, enhancing the quality of life in Warren County in many overlapping ways. Generally these benefits can be broken into several categories:

- Ecosystem Benefits;
- Cultural/Historic Benefits;
- Educational Benefits;
- Public Health Benefits;
- Transportation Network Benefits;
- Tourism and Leisure Industry Benefits;
- Park and Open Space Benefits; and
- Benefit to Property Values.

Ecosystem Benefits

Ecosystems provide a wide variety of economically valuable services, including water supply, treatment of waste produced by living things, buffering, plant and animal habitat, and others. However, for the most part, ecosystem services are not currently accounted for in determining real estate values. A 2006 study analyzed the results of 100 separate ecosystem surveys, covering the entire range of ecosystems present in New Jersey, to identify the services provided by each system and estimate the financial value associated with these services. An example of estimating such value would be to determine the amount of storm water stored and treated by a wetland and then to determine the actual cost of performing these activities through traditional methods. Using the average ecosystem service values, each acre of preserved open space provided \$309 in waste, \$768 in disturbance prevention, \$772 in habitat, and \$1,100 in water-supply services per year.³ Table 5-1 compares annual ecoservice values by ecosystem service per acre of preserved open space in New Jersey.

As an open-space area, the Morris Canal Greenway provides a diversity of habitat for plants and animals, acts as a corridor for the movement of wildlife and provides important ecosystem services. The vegetation preserved within the greenway helps to absorb and purify stormwater runoff, prevent erosion, reduce air pollution, and moderate air temperatures, in addition to providing scenic beauty. Parts of the canal that retain water also serve a stormwater detention function.

¹ The Health Benefits of Parks. The Trust for Public Land. San Francisco, CA. 2006.

² Why America Needs More City Parks and Open Space: The Benefits of Parks. The Trust for Public Land. San Francisco, CA. 2006.

³ 4ward Planning, Costanza et al., The Value of New Jersey's Ecosystem Services and Natural Capital, 2006.

Economic & Public Benefits

Ecosystem Service	Land Covers Associated with Ecosystem Service	Value (per Acre/Year)		
		Min	Mean	Max
Water Supply	Forests, Freshwater Wetlands, Open Freshwater, Riparian Buffer	\$3	\$1,102	\$3,839
Waste Assimilation	Forests, Freshwater Wetlands, Pasture, Riparian Buffer	\$44	\$309	\$838
Disturbance Prevention	Freshwater Wetlands, Riparian Buffers, Urban Green Space	\$6	\$768	\$3,657
Habitat	Cropland, Forests, Freshwater Wetlands	\$1	\$772	\$3,883

Table 5-1: Annual Ecoservice Value of New Jersey's Preserved Open Space (2004 Dollars)⁴

Cultural Benefits

"Heritage is the collective values, beliefs, traditions, experiences, and accomplishments of a group of people. It can be expressed through their communal activities, social structures, institutions, work, writing, arts and inventions, and the way they relate to their environment.... The visible, tangible record of a people's historical experiences and cultural expressions provides an especially powerful and lasting document of a community's heritage...bringing continuity and meaning to people's lives and connecting them to past and succeeding generations."⁵

Preservation of the Morris Canal is an inheritance we choose to share with the future for it is, as the National Trust has written, - a symbol of "the labor of our bodies, the creativity of our minds, the triumph and failure of our institutions, and our search for security, fellowship, play, enlightenment, and inner peace."⁶

Educational Benefits

The Morris Canal is a fascinating example of what mankind can accomplish with an ingenious use of available resources and a lot of hard work, especially when the labor-intensive techniques used in its construction are compared to today's technology. The features of the Morris Canal can be used to show the interrelationship between geography, environment, people, economics, innovation and culture, making it a perfect subject for integrating lessons in social studies, science, math, language, and the arts in keeping with statewide academic standards. The development of place-based educational programs along the canal can not only reinforce classroom instruction and but also increase the general public's appreciation of the canal's function, design and societal impacts.

Public Health Benefits

An increasing number of studies have shown that a lack of physical activity has been shown to contribute to serious ailments and diseases associated with poor health and a reduced life expectancy, such as obesity, hypertension, heart disease, stroke, arthritis, diabetes, and some forms of cancer. The U.S. Surgeon General says that physical activity has a positive impact on mental health by promoting feelings of well-being and mood in addition to reducing anxiety and depression.⁷ The ability to access park and open-space areas for recreational purposes is a significant factor in improving public health and minimizing the considerable expense of treating these health problems.

⁴ Ibid

⁵ Heritage Education: A Community-School Partnership. Information Series No. 73. National Trust for Historic Preservation. Washington, D.C. 1993.

⁶ Ibid.

⁷ Physical Activity and Health: A Report of the Surgeon General. U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease and Prevention and Health Promotion. Atlanta, Ga. 1999.

Economic & Public Benefits

According to the National Centers for Disease Control and Prevention, New Jersey residents rank above average in physical inactivity. Research indicates that physical inactivity contributes to increased healthcare costs (both direct and indirect), workers' compensation (both direct and indirect), and lost productivity costs.⁸ According to data collected by the Delaware Valley Regional Planning Commission, the annual cost of physical inactivity ranges from \$2,892 to \$4,470 per person. Table 5-2 presents the range of annual cost savings attributed to physical activity, or in other words, the health-care costs associated with physical inactivity.

Costs	Low	Expected	High
Direct Medical-Care Costs	\$308	\$475	\$642
Indirect Medical-Care Costs	\$924	\$1,425	\$1,926
Workers Compensation Costs	\$6	\$10	\$12
Indirect Workers Compensation Costs	\$24	\$40	\$48
Lost Productivity	\$1,630	\$1,918	\$2,112
Total	\$2,892	\$3,868	\$4,740

Table 5-2: Annual Physical Activity Cost Savings (2000 Dollars)⁹

Fortunately, research also suggests that increasing the supply and access to quality of open spaces can help reduce health-care costs associated with physical inactivity by increasing the number of residents exercising at a level that incurs positive health benefits (i.e. walking or exercising once to twice a week). Wang et al. (2004) demonstrated that building trails can be cost-beneficial from a public health perspective.¹⁰ The study found that a \$1 investment in trails in Lincoln, Neb., led to \$2.94 in direct medical benefit (cost-benefit ratio of 2.94). Research also suggests that the type, size, and features of open space can have an impact on the amount of physical activity occurring there. Kaczynski et al. (2008) found that parks with a paved trail, unpaved trail, or wooded area were more than seven times as likely to be used for physical activity as were parks without these features.¹¹ The proposed trail improvements to the Morris Canal Greenway will increase the amount and quality of open spaces within Warren County, providing improved recreational opportunities and public health benefits for local residents and visitors.

“Access to recreational areas is a critical need if Warren County residents are to participate in physical activities,” according to the county health department.¹² The county health department’s “2005 Quality of Life Survey indicated that 74% of respondents reported having access to recreational areas such as parks, fitness facilities, hiking trails and pools within their community, there was a significant difference in the types of recreational venues available based upon the region of residence with more hiking trails being reported in the northern area of the county and more pools reported in the southern area of the county.”¹³ Despite this survey’s results, feedback from this survey’s focus group participants “discussed identifying and advocating for recreational areas other than sports oriented fields. Residents noted that not all recreational and open space areas were readily accessible.”¹⁴ The Morris Canal Greenway has the potential to serve as the spine of a conveniently accessible trail network to support a healthy lifestyle.

⁸ Delaware Valley Regional Planning Commission, *The Economic Value of Protected Open Space in Southeastern Pennsylvania*, 2011.

⁹ Ibid

¹⁰ Wang et al, *Cost Effectiveness of a Bicycle/Pedestrian Trail Development in Health Promotion*, Preventive Medicine, 2004.

¹¹ Kaczynski, et al, *Association of Park Size, Distance, and Features With Physical Activity in Neighborhood Parks*, Vol 98, No. 8, *American Journal of Public Health*, August 2008

¹² *Community Health Improvement Plan*. Warren County Health Department. Washington, NJ. January 2007. Page 17.

¹³ Ibid.

¹⁴ Ibid.

Economic & Public Benefits

Transportation Network Benefits

Walking and bicycling “account for 12% of all trips taken in America. In rural communities, that number stands between 6.9 and 9.6 percent, depending upon the size and geography of the community, according to the 2009 U.S. Department of Transportation National Household Travel Survey. And these numbers are growing fast. Bicycle commuting across the United States rose 40 percent in the past decade, according to the American Community Survey. For skeptics who say that American communities are too spread out for any transportation except automobiles, consider this: half of all trips made by Americans today are within 20 minutes or less by bicycle, and 28 percent are within 20 minutes by foot. For rural residents, the picture is very similar: nearly 40 percent of all trips are shorter than 3 miles, and of those, half are shorter than one mile.”¹⁵

The results of the 2011 Community Preference Survey conducted by the National Association of Realtors® show that 77% of Americans polled considered access to sidewalks and places to take walks an important factor in their decision as to where to live.¹⁶

The towpath of the Morris Canal Greenway has the potential to interconnect pedestrian, bicycling, recreational boating and vehicular travel, providing a wider variety of transportation options for residents and visitors. Linkages to neighborhood and downtown sidewalk systems will expand pedestrian access to friends, schools, businesses and community services, including bus stops and a train station, while ties to riverfront areas will provide opportunities to combine walks or rides along the canal with canoeing and fishing activities. If connections can be made to other trail corridors or preserved sections of the Morris Canal to the east, the canal can become an integral part of a regional trail network extending beyond Warren County.



Existing trail marker for Morris Canal Trail

With the rising price of gasoline, a decrease in automobile traffic through the use of the Morris Canal Greenway as an alternative transportation corridor for pedestrians and bicyclists has both an economic and environmental benefit, since residents will not only reduce their household expenditures on gasoline but also lessen their carbon footprint. Every gallon of gasoline produces 20 pounds of carbon dioxide when burned, so each gallon saved through walking or bicycling can add up to a significant reduction in carbon dioxide pollution. The associated conservation of oil resources indirectly strengthens our local, state and national energy security by lowering our dependence on oil.

Tourism and Leisure Industry Benefits

Continued protection of the Morris Canal Greenway will help reduce a more than 2,000-acre deficit in the amount of public open space in Warren County, especially in the central and southern sections of the county, according to the Warren County Open Space and Recreation Plan.¹⁷ However, the recreational potential of the Morris Canal Greenway is greater than simply providing more open space. In addition to being a place for wildlife-viewing, walking, hiking and biking, the canal can support a much broader range of leisure activities associated with heritage tourism, defined by the National Trust for Historic Preservation as “traveling to experience the places and activities that authentically represent the stories and people of the past.”¹⁸ The 2009 Edition of the Cultural Heritage Traveler reveals the extent to which these travelers participate in different kinds of leisure activities in addition to other forms of outdoor recreation:

¹⁵ Active Transportation Beyond Urban Centers – Walking and Bicycling in Small Towns and Rural America. Rails-to-Trails Conservancy. Washington, D.C. Page 9.

¹⁶ The 2011 Community Preference Survey: What Americans are looking for when deciding where to live. Beldon, Russonello & Stewart, LLC for the National Association of Realtors. Washington, D.C. March 2011.

¹⁷ Warren County Open Space and Recreation Plan. Warren County Planning Department. June 2, 2008 Update to 1999 Plan. Page 84.

¹⁸ <http://www.culturalheritagetourism.org/howtogetstarted.htm>.

Economic & Public Benefits

- 40% experienced local cuisine;
- 39% visited historic sites;
- 39% explored small towns;
- 38% visited a state or national park;
- 34% took a self-guided walking tour;
- 33% visited historic buildings;
- 32% shopped for local arts and crafts;
- 31% visited history museums/centers;
- 28% visited art museums/galleries; and
- 25% visited natural history museums/centers.¹⁹

The 25-Year Action Plan for the Morris Canal Greenway supports these recreational activities by making or promoting physical and programmatic connections between these points of interest.

Park and Open Space Benefits

Parks and preserved open space provide a range of nonmarket value benefits to society, one of which is a variety of recreational opportunities. People are able to express their willingness to pay to protect lands that provide those services. According to 2005 study conducted by the U.S. Department of Agriculture, summarizing more than 30 years of literature on net economic value of outdoor recreation on public lands within the United States, the average person within the northeast is willing to spend anywhere from \$6 to \$121 per day on recreational activities. Table 5-3 compares willingness-to-pay values by recreational activity.

Activity	Mean	Min	Max
Sightseeing	\$121.43	\$33.07	\$209.77
Rafting/ Canoeing	\$88.32	\$20.08	\$143.50
Hiking	\$75.18	\$49.8	\$91.10
Picnicking	\$56.45	\$8.94	\$103.96
Hunting	\$47.45	\$4.16	\$250.90
Mountain Biking	\$40.93	\$40.93	\$40.93
Birdwatching	\$34.86	\$5.80	\$78.46
Cross-Country Skiing	\$34.60	\$29.70	\$39.49
Camping	\$33.11	\$6.73	\$66.44
Fishing	\$32.60	\$2.08	\$253.13
Wildlife Viewing	\$31.30	\$2.40	\$96.30
Swimming	\$22.21	\$2.20	\$50.10
General Recreation	\$16.87	\$1.97	\$46.69
Environmental Education	\$6.01	\$6.01	\$6.01

Table 5-3: Willingness-to-Pay Values, 1967-2003, Northeast (2004 Dollars)²⁰

¹⁹ Linking Our Legacy to a New Vision – A Heritage Tourism Plan for New Jersey – Master Plan. New Jersey Heritage Tourism Task Force. Trenton, NJ. June 2010. Page 54 reference to The Cultural and Heritage Traveler, 2009 Edition by Laura Mandela of Mandela Research, LLC commissioned by Heritage Travel, Inc./National Trust for Historic Preservation, U.S. Cultural and Heritage Tourism Marketing Council, and the U.S. Department of Commerce.

²⁰ Loomis, Updated Outdoor Recreation Use Values on National Forests and Other Public Lands, USDA, October 2005

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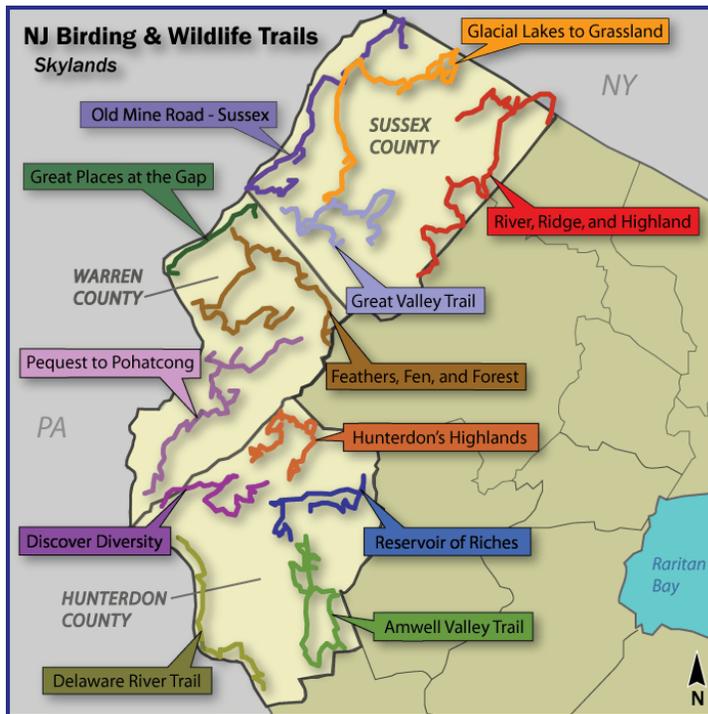


Figure 5-1: NJ Birding and Wildlife Trails in the Skylands²³

The preserved open space of the Morris Canal Greenway helps support New Jersey's outdoor recreation industry, particularly wildlife watching. "Wildlife-related recreation has become one of the most popular outdoor activities in the U.S. Over the past 20 years, participation in wildlife watching, particularly bird watching, has increased nationally by more than 266%"²¹ and is "the largest growing sector in outdoor recreation. Across the U.S., nearly \$40 billion was spent on wildlife watching - a figure that has increased by over 40% in the past ten years. These expenses ranged from supplies, such as binoculars and birdseed, to hotel rooms and gasoline. In New Jersey alone, 1.64 million residents and 688,000 visitors watched wildlife, and, collectively, these two groups spent \$1.24 billion on their hobby."²² New Jersey Audubon has

established three birding and wildlife trails across the state to facilitate public access to known wildlife areas, including three trails in Warren County near the Morris Canal as shown in Figure 5-1.

Increased Consumer Expenditures

Studies from around the country have shown that local businesses receive economic benefits from trails and greenways as a result of consumer expenditures on "soft goods" (food, clothing, and gas, etc.) from trail users. On average, overnight and multi-day trail users spent significantly more on food, lodging, and other items. Although businesses located at the intersection of trail access points and major roads tend to capture the most consumer expenditures from trail users, the development of signs and kiosks can help direct users toward additional nearby businesses for food, beverages, supplies, shopping, etc. According to 2009 Rails-to-Trails Conservancy data for trails comparable to Morris Canal, the majority of trail users (60 percent) purchased soft goods (beverages, candy and snack foods, sandwiches, ice cream, restaurant meals, etc.), spending on average between \$4 and \$30 per visit (averaging \$14.14).²⁴ Table 5-4 compares consumer expenditures on soft goods for comparable trails in the northeast.

²¹ National Survey of Fishing, Hunting and Wildlife-Associated Recreation. U.S. Fish and Wildlife Service. 2001. As summarized by New Jersey Audubon at <http://www.njwildlifetrails.org/AboutUs/WhyWildlifeTrails.aspx>.

²² Ibid.

²³ New Jersey Audubon. <http://www.njwildlifetrails.org/SkylandsTrails/Trails.aspx>.

²⁴ Rails-to-Trails Conservancy, Trail User Surveys and Economic Impact: A Comparison of Trail User Expenditures, 2009; 4ward Planning LLC, 2012.

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Business and Attraction Expansion

Employers consider a variety of factors including amenities for their employees when looking for places to relocate or expand their businesses. For example, workers, particularly young people, are attracted to places that provide opportunities for easy access to outdoor recreation. A Massachusetts Department of Environmental Management (1993) survey of 38 businesses along the Cape Cod Rail Trail in Massachusetts found that 24 percent of the business owners cited the rail-trail as one reason they opened or acquired their businesses.²⁵ This same survey found that 60 percent of the businesses expanded, and of those, half considered the rail-trail a prominent factor in this decision.

Trail	State	Length (miles)	Average Spent on Soft Goods by User ⁱ	% Purchasing Soft Goods	Annual User Visits	Annual
Pine Creek Rail Trail	PA	57	\$30.30	86%	138,227	\$3.6
Perkiomen Trail	PA	18	\$11.09	53%	397,814	\$2.3
Schuylkill River Trail	PA	130	\$8.86	33%	NA	NA
Heritage Rail Trail County Park	PA	21	\$12.86	79%	394,823	\$4.0
Oil Heritage Region Trail System	PA	60	\$8.92 ⁱⁱ	NA	160,792	\$4.3
Lower Trail	PA	17	\$27.20 ⁱⁱⁱ	NA	NA	NA
Great Allegheny Passage	PA	141	\$13.00	67%	NA	NA
Torrey C. Brown Trail (formerly the NCR Trail)	MD	20	\$9.14	72%	800,000	\$5.3
Virginia Creeper Trail	VA	34	\$19.20 ^{iv}	NA	130,172	\$2.5
Washington & Old Dominion Rail-Road Regional Park	NY	45	\$4.11	NA	1,707,353	\$7.0
Genesee Valley Trail	NY	60	\$10.83	31%	NA	NA
Average			\$14.14	60%	532,740	\$4.1

Table 5-4: Comparison of Consumer Expenditures on Soft Goods by Trail User²⁶

Notes: The age of the majority of respondents was in between 46-65 years old. On average, 79% of respondents were local users, 21% were non-local users.

- i. Soft goods were listed as: beverages, candy/snack foods, sandwiches, ice cream, restaurant meals, other and none of these.
- ii. Average sending based on \$32.93 for non-local respondents (27%) (includes lodging/camping), \$3.71 for local respondents (73%)
- iii. Included gasoline costs & trail donations
- iv. Based on total \$ amount; \$2.00 for local users

²⁵ Massachusetts Department of Environmental Management, An Executive Summary of a Business Survey Done on the Cape Cod Rail Trail, 1993.

²⁶ Rails-to-Trails Conservancy, Trail User Surveys and Economic Impact: A Comparison of Trail User Expenditures, 2009; 4ward Planning LLC, 2012.

Economic & Public Benefits

Benefit to Property Values



Radnor Trail, growing suburb, Pa.



Perkiomen Trail, suburb/rural, Pa.

According to a study conducted by the Delaware Valley Regional Planning Commission (2011) for Southeastern Pennsylvania, proximity to open space is usually positively capitalized, albeit with much variation. For example, being in close proximity (within a quarter mile) of the Radnor Trail resulted in an incremental increase in house value of \$69,139, compared to \$4,766 for Perkiomen Trail. This incremental increase in property value also varied widely depending on type of community and year surveyed. In general, the value of proximity to open space was higher in more urban areas than in more rural areas where open space exists in greater abundance. In 2005, homes located within a quarter mile of preserved open space were associated with a 0.7 and 0.4 percent increase in the city and suburbs, respectively. By 2009, the same proximity was associated with a 9.0 and 2.1 percent increase in the city and suburbs, respectively. This upward trend may be due to a number of factors including a greater ecological consciousness or improved maintenance/investment in the region's open spaces.

Economic & Public Benefits

Prospective Opportunities

Greenway-Wide Opportunities

Based on the key demographic and labor trends, and surrounding environment, competitive attractions, and potential partnerships, prospective opportunities were identified for the proposed Morris Canal Greenway based on their ability to meet one or more of the following criteria:

- Provides revenue-generating activities that promote the financial short and long-term development and operation of the greenway
- Increases recreational amenities for local and regional users
- Creates educational opportunities to learn about the canal’s rich history
- Stimulates local economic development
- Promotes the greenway as a recreational and cultural tourism attraction within the larger region
- Integrates the proposed greenway plan with other initiatives in a manner that fosters new and/or improved partnerships and synergies

Prospective opportunities for the proposed Morris Canal Greenway are provided in the following sections. These prospective opportunities are organized based on their scope, whether they can be implemented along the entire greenway or are place-based.

Table 4-1: Greenway-Wide Prospective Opportunities

	Classroom to Canal	Canal Discovery Walks	Marathon/ Cross Country Races	Treasure Hunting & Geo Caching	Electronic Directory/Smartphone App	Online Gift Shop
Provides Revenue Generation Activities		✓	✓	✓	✓	✓
Increases Recreational Amenities	✓	✓	✓	✓		
Creates Educational Opportunities	✓	✓		✓	✓	✓
Stimulates Local Economic Development		✓	✓	✓	✓	✓
Promotes Greenway to Region	✓	✓	✓	✓	✓	✓
Fosters New Partnerships and Synergies	✓	✓	✓	✓	✓	✓

Economic & Public Benefits

“Classroom to Canal” Education Program

Description	Volunteer-led walks for teachers and school children to learn about nature, Warren County’s history and more along the banks of the canal.
Occurrence	Weekdays April-June, September-October
Likely Patronage Profile	Local schools and community organizations
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time



Canal Discovery Walks

Description	Expert-led half-day tours to learn about nature, history and more along the banks of the canal. Box lunch optional. Proceeds support canal development.
Occurrence	May-October
Likely Patronage Profile	Couples and singles over 45 years old
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time

Economic & Public Benefits

Race Fundraiser

Description	Hike-a-thon, walk-a-thon, bike race or foot race where proceeds go to trail development
Occurrence	May-October
Likely Patronage Profile	Young adults and professionals
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time



Treasure Hunting and Geocaching

Description	A real-world outdoor treasure hunting game. Players try to locate hidden containers, called geocaches, using GPS-enabled devices and then share their experiences online. The quest to find these caches will take participants throughout the canal and its surrounding historic sites.
Occurrence	November-February
Likely Patronage Profile	Families with children, couples and singles representing a broad socioeconomic swath
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Northeast Region

Electronic Directory / Smartphone Application

Description	An online directory/calendar and smartphone application that incorporates local advertisers/businesses for a small fee
Occurrence	Year-round
Likely Patronage Profile	Patrons using the application for canal information and special events
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time

Economic & Public Benefits

Online Gift Shop

Description	An online gift show selling a variety of hard and soft-branded goods and memorabilia related to Morris Canal Greenway. Opportunity to download self-guided tour information, link to Morris Canal Sustainable Business Network (local shops, B&Bs, guides, bike rentals, etc.) or buy Morris Canal membership
Occurrence	Year-round
Likely Patronage Profile	Patrons using application for canal information and special events
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Northeast Region

Place-Based Opportunities

Based on their location, the demographic of the surrounding area, and their current ability to draw tourists, several destinations along the greenway have the potential to generate revenue to further the greenway's mission. These locations are already well-established interpretive centers but have room to improve their offerings to visitors.

Saxton Falls

Description	<i>Revenue Generating:</i> Tented events <i>Free:</i> Museum and self-guided tours
Occurrence	Year-round
Likely Patronage Profile	Families with children, couples and singles representing a broad socioeconomic swath
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time



Saxton Falls. Photo courtesy panoramio.com



Economic & Public Benefits

Plane 9 West

Description	<i>Revenue Generating:</i> Tented events <i>Free:</i> Museum and self-guided tours
Occurrence	Year-round
Likely Patronage Profile	Families with children, couples and singles representing a broad socioeconomic swath
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time

Bread Lock Park

Description	<i>Revenue Generating:</i> Tented events <i>Free:</i> Perimeter walking/exercise trail, Warren County Historical Learning Center
Occurrence	Year-round
Likely Patronage Profile	Families with children, couples and singles representing a broad socioeconomic swath
Annual Revenue Potential	Low to Moderate
Likely Primary Market Area Draw	Up to a 45-minute drive time

Table 4-2: Place-Based Prospective Opportunities

	Saxton Falls	Plane 9 West	Bread Lock Park
Provides Revenue Generation Activities	✓	✓	✓
Increases Recreational Amenities	✓	✓	✓
Creates Educational Opportunities	✓	✓	✓
Stimulates Local Economic Development	✓	✓	✓
Promotes Greenway to Region	✓	✓	✓
Fosters New Partnerships and Synergies	✓	✓	✓

Recommendations

Introduction

Recommendations in this report were primarily derived from one of two sources: those related to the opportunities and constraints exercise and those resulting from direct input from the county, TAC, or during the public involvement process. The recommendations resulting from the opportunities and constraints exercise were generally tasks intended to capitalize on a specific opportunity or strategies intended to overcome an existing constraint. Recommendations derived as direct input were typically items either already identified as a formal or informal strategy of groups involved or items resulting from collaborative discussion.

By nature, the recommendations fall into one of two categories: segment recommendations and greenway-wide recommendations. Segment recommendations are tied to specific locations or areas along the greenway. They include items and strategies, such as trailhead locations or partnerships with local business owners, which only apply to one portion of the greenway. Segment recommendations are organized by segment and each section is preceded by highlights and a general description of each portion of the greenway. Greenway-wide recommendations are much broader strategies and cannot necessarily be tied to one location. They represent overall strategies and policy actions which will benefit the greenway as a whole. Examples may be revisions to the Morris Canal Preservation Ordinance or general economic development efforts. These recommendations are grouped according to the focus of the strategies presented. For example, all of the recommendations dealing with economic development appear together.

Although presented separately within this report, both the segment and greenway-wide recommendations are presented in the same format. Each section of recommendations is introduced with a corresponding matrix. Across the top of the matrix are the seven statements of the vision and the recommendations are listed down the left side of the matrix. Within the matrix itself, the primary portion of the vision statement which a recommendation addresses is identified in dark gray. Those portions of the vision statement which a recommendation contributes to, but does not fully address are identified in light gray.

Following the matrix, each recommendation is discussed in detail. This discussion begins with the project description. The description provides background information on the development and intent of the recommendation, as well as a general overview of the associated strategies. The actual tasks associated with each recommendation follow the project description. These are identified as one item or divided into individual steps as appropriate for each recommendation.

To provide better schedule staff time and track progress of the recommendations, rough time frames and milestones for each task are identified. As it is uncertain when a project will be completed and priorities will likely change as opportunities arise, the time frame provided here is based on the duration of the task. It gives the amount of time needed to start the task and progress to the milestone identified within. The time period assumes that the individual responsible for performing the task will not be dedicating all of his/her available time to that task but will be simultaneously completing multiple tasks during this time period. The time periods are of sufficient length to allow opportunities for public input as needed. A notation is made where the completion of certain tasks needs to be coordinated. Costs for each task are also included providing a conceptual estimate of the 2011/2012 costs associated with physical improvements, obligations of Warren County staff time or the monetary value of volunteer labor needed to complete a given project. Actual cash expenditures will be reduced greatly as donations of materials, volunteer time and labor are utilized in the implementation of many the projects. Since most projects are currently conceptual in nature and specific details are unknown at this time, a range of costs provides insight into the potential requirements for medium- and long-term budgeting efforts.

Recommendations

Estimated costs for specific physical improvements were developed utilizing cost estimating reference materials.

For tasks which it was appropriate, an estimate of labor necessary to complete the task was developed. In developing these estimates, a distinction was made between tasks that could be completed by the members of the Warren County Morris Canal Committee or other volunteers, and tasks that could be completed by the proposed Open Space Coordinator or a member of the county staff with professional experience in resource conservation. As a result, a \$25 per hour rate was assigned to work to be performed by a Committee member or volunteer while a \$50 per hour rate was assigned to the work to be completed by the Open Space Coordinator or county staff person. The \$25 per hour rate was based upon national (\$21.79 per hour as of 2011) and New Jersey (\$25.64 per hour as of 2010) values of volunteer labor as established by the Independent Sector¹, with the number adjusted to \$25 to balance the higher level of expertise of the Committee members with the potential adverse impact of the current economic recession. The \$50 per hour rate was established merely as a budgetary figure in an attempt to generally reflect the salary, benefits and cost of quarters for an in-house professional without an elaborate analysis of that person's specific qualifications, years of experience or other factors that might affect this expense.

Implementation agencies and potential funding sources are also provided for each recommendation. Implementation agencies are included to provide guidance as to potential partners in the completion of any one given project. The expansive nature of many of the recommendations contained within the plan requires that successful implementation be the result of a collaborative effort between many agencies. Greater collaborative efforts during the execution stage of any of these recommendations, will result directly in an increase of the chances for a project's success.

Potential funding sources have been provided for each recommendation in an attempt to provide general guidance as to the types of sources which typically fund a specific project type. In addition to the sources listed there are many other sources available to municipalities and organizations that take the effort to research and identify them. It is also likely that throughout the life of this plan, many of the funding sources identified within will be eliminated and new sources will come on line, so continual reassessment of available funding opportunities will be necessary.

The final information provided in support of each recommendation is a quick discussion highlighting some of the benefits that could be associated with completing the recommendation. Primarily economic and public benefits have been identified, but other have been included as appropriate. It should also be understood that completion of any of the recommendations within this report, contribute to the overall goals of implementing the greenway and thus contribute to the overall economic and public benefit of greenway creation.

The recommendations of the 25-Year Action Plan for the Morris Canal Greenway serve as the specific directions clarifying the route forward. Many portions of the greenway and goals of this plan can be completed with the successful implementation of a few projects, while others will require the synergy provided by completing a larger number of projects. The recommendations in this report should not be seen as an exclusive list of the tasks needed to create a flourishing greenway, but they are intended to provide a snapshot of the potential recommendations as identified during the planning process. It is likely that throughout the life of this report, opportunities and circumstances will evolve which dramatically change priorities, illuminate new possibilities and eliminate the need for some of these recommendations.

Following this introduction are outlined some general guidelines that apply which pertain too many of the recommendations within the greenway. After these general guidelines can be found both the segment and greenway-wide recommendations. A master recommendation matrix is located in Appendix K. This matrix lists all of the recommendations of the report.

¹ http://www.independentsector.org/volunteer_time

Recommendations

Overall Greenway Trail Considerations

The purpose of discussing segments is to determine the appropriate greenway route, trail type and destinations to be highlighted along the greenway. It is pertinent to discuss trail design and building considerations and how these strategies may be employed differently in different segments.

Developing a user-friendly, safe and scenic trail is a critical key to the success of the Morris Canal Greenway. Given the trails continually evolving route, expansive length, variable terrain and contrasting environs- whether rural, suburban or densely populated, it would be almost impossible to provide a detail design for the entire length of the trail in this plan. A section of greenway along a busy sidewalk in Phillipsburg will necessitate much different planning and design strategies than would a restored towpath between the canal and a parcel of preserved farmland in Mansfield Township. For these reasons, this plan provides general design guidelines to guide the design of specific sections of trail as they are constructed. A list of additional resources that will address more specific issues in greater detail can also be found at the end of this section.

Most trail design standards are based, at least in part, on the American Association of State Highway and Transportation Officials' (AASHTO) Guide for the Development of Bicycle Facilities². AASHTO's Guide for the Development of Bicycle Facilities provides both general and technical guidance in the planning and design of all types of facilities, from bike lanes on highways to what it refers to as "shared use paths"- the category of trail into which most of the greenway will fall. Using these widely-accepted public guidelines as a basis for design along with other technical guidance documents, such as the New Jersey Department of Transportation (NJDOT) standards, not only provides guidance for area-specific trail design but also ensures agency standards are met, which is often a requirement of project funding.

The well-established Rails-To-Trails Conservancy is a non-profit organization whose work involves using abandoned (and sometimes still operational) rail lines as corridors for what are essentially shared use paths. Rail lines make great biking or hiking trails because they are predominantly flat, generally cut through rural areas with pleasant scenery, and are often wide enough to accommodate multiple modes of pedestrian travel, including bikes, walkers, rollerbladers, etc. There are already several Rails-to-Trails projects in Warren County, including the 4.2 mile Pequest Wildlife Management Area Trail, the Oxford Bikeway, and the 27 mile Paulinskill Valley Trail which continues into Sussex County. A two-mile stretch of existing trail along the Morris Canal in Allamuchy Township is an existing Rails-to-Trails project³. The collective resources of the Rails-to-Trails Conservancy would prove very beneficial in helping to expand this existing shared use trail, linking it to the greenway.

General Design Guidelines

As previously stated, significant portions of the proposed greenway will fall into the category of what AASHTO calls a shared use path. A shared use path has minimal vehicular interaction but serves as a pedestrian transportation route complementary to the vehicular system. The document advises that a well-planned shared use path should attempt to be inclusive of as many user groups as possible. This level of inclusion is achieved through selection of specific design standards, such path surfacing, accessibility and visibility of the trail, slopes, scenery and aesthetics, addressing the specific needs of as many different users as possible. Although these general guidelines will provide the overarching strategies for trail design, site constraints and conditions will ultimately dictate the design of individual trail segments. A good example of this would be trail width along the towpath which in many areas is not wide enough, per the AASHTO standards, to accommodate a full-width multi-use trail.

² American Association of State Highway and Transportation Officials. Guide for the Development of Bicycle Facilities. 1999.

³ According to TrailLink.com, the map service provided by the Rails-To-Trails Conservancy

Recommendations

Trail Width

One of the most critical considerations in trail planning and design is the width of the proposed trail. The width of a trail plays a key role in user safety. Traffic levels, intended user groups and trail location all contribute to determining the proper design width of a trail⁴. Completion of the Morris Canal Greenway Trail will require design and construction of multiple trail types including improved towpath, new trails through unimproved areas, sidewalk based trails, and trails located along the shoulder or within a roadway right-of-way. Constraints associated with the location of a trail, along with its anticipated level of use, will dictate the width of trail constructed in any given location.

AASHTO guidelines recommend a two-way, multi-use trail be built to a width of 10' with a 3' shoulder on either side (see Figure 5-2). This width will be difficult to achieve in most locations, such as sections of towpath which are less than 10' wide and in areas where the trail must share the roadway with vehicles. In these areas, the width of the trail must be adjusted accordingly but still made as wide as possible⁵. However, shared use paths less than 6' wide are not safe for one-way bike travel, and signage directing bicycles to an alternate route or all together

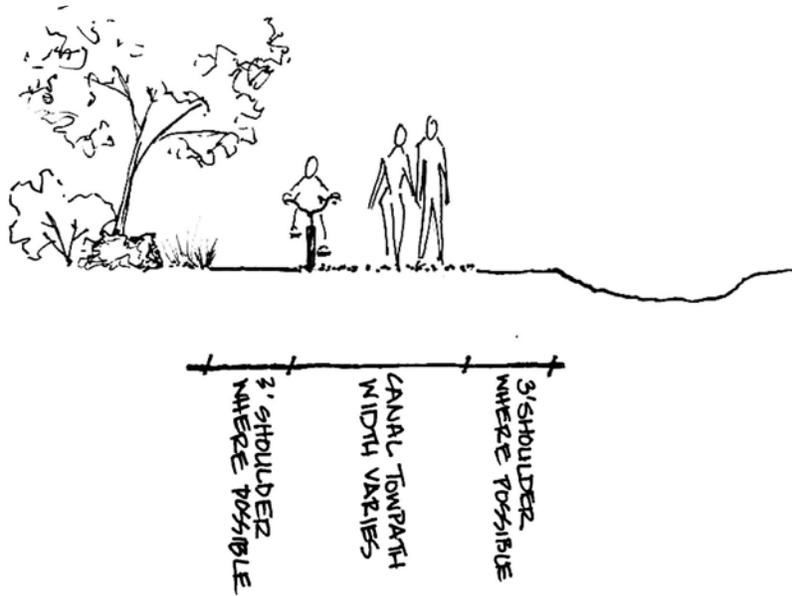


Figure 5-1: The existing canal towpath has varying widths, and is rarely 10' wide, as the AASHTO guidelines recommend. When the path is adjacent to a steep bank of the canal prism, a 3' shoulder should be provided between them.

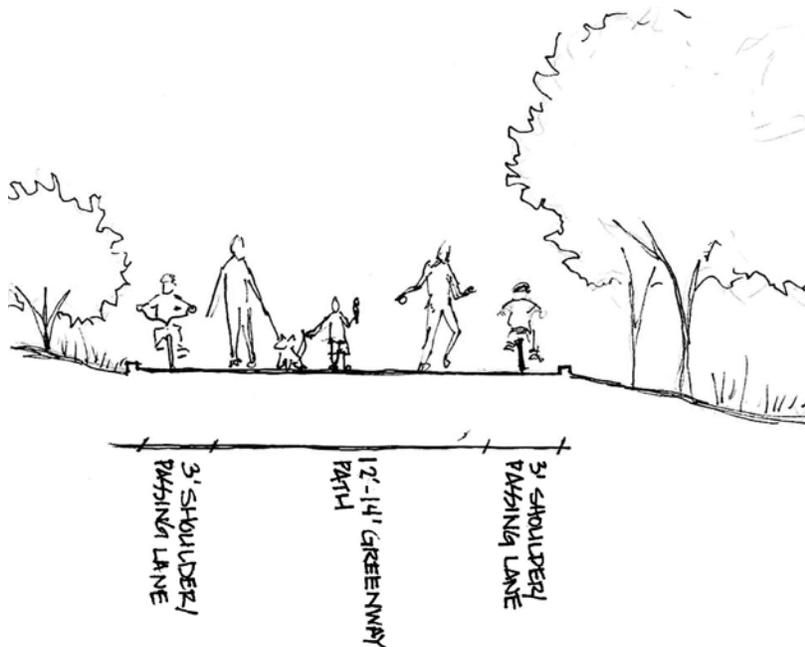


Figure 5-2: The greenway width should be between 12 and 14' in high-traffic areas, preferably with a 3' shoulder that can serve as a passing lane on either side.

⁴ American Association of State Highway and Transportation Officials. Guide for the Development of Bicycle Facilities. 1999.

⁵ Pathways to Trail Building. Tennessee Department of Environment and Conservation. 4th ed. <http://atfiles.org/files/pdf/TNpathways.pdf>

Recommendations

prohibiting them should be considered.⁶ Since a goal of the greenway is to accommodate as many user groups as possible on a contiguous trail route, keeping the trail width 6' and greater is optimal.

Higher-traffic areas, like the trail through Delaware River Park in Phillipsburg, require wider surfaces- between 12' and 14'- than those that are less frequently used⁷ (see figure 5-3). Consideration should also be given to portions of the trail likely to require access by service or emergency vehicles and should be at least 12' wide in these areas. Areas with average pedestrian traffic and limited bicyclists should be designed to a width of eight feet.⁸

In addition to the main travel way of the trail, there should be a shoulder on each side providing a minimum width of 2', with a maximum slope of 1:6. A 3' shoulder is preferable as it allows more clearance between greenway users and adjacent tree limbs, shrubbery or fencing.⁹ Sections of trail along the towpath or otherwise adjacent to the canal prism, which possess a slope greater than 1:6, should be located a greater distance from the slope if possible or be separated by a physical barrier.

Where private land ownership bars a greenway trail along the canal or through adjacent properties, the trail may have to share a route with roadways. These sections will require different design standards than the shared use pedestrian paths. A bicyclist requires just over 3' of space, and a typical single direction bike lane on a roadway where no curb or gutter is present is about 4' wide.¹⁰ Single direction bike lanes on busy streets should be widened to about 5' for added safety and comfort. Optimally, in situations where the proposed greenway trail utilizes a roadway, trail lanes should be present on each side of the street. Where no bike lanes exist or can be implemented, on-road trails should be indicated by signage and should optimally possess a 4' paved shoulder with an indicator stripe.

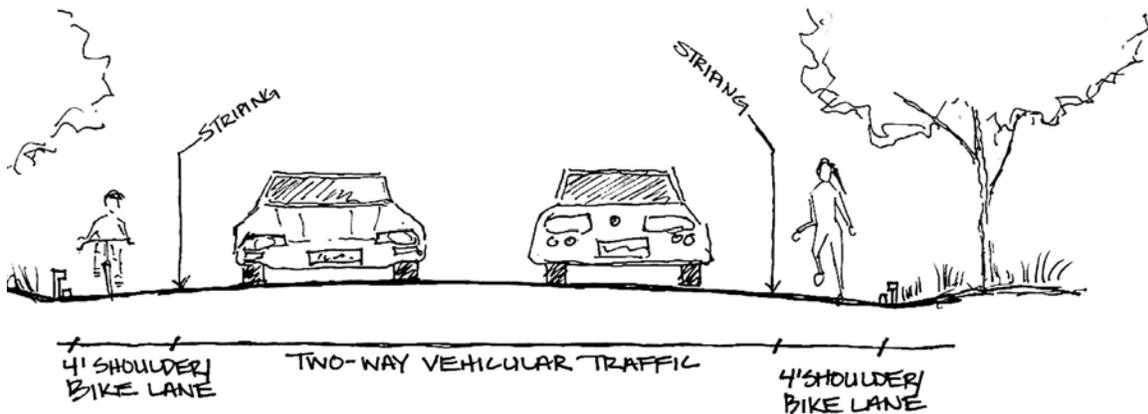


Figure 5-3: Bike lanes either 4 or 5'-wide or 4'-wide shoulders indicated by road striping make acceptable routes for the proposed greenway.

⁶ Ibid

⁷ American Association of State Highway and Transportation Officials. Guide for the Development of Bicycle Facilities. 1999.

⁸ Ibid

⁹ Ibid

¹⁰ Ibid

Recommendations

Trail Surfacing

Trail surfacing is a major factor in determining user groups who frequent a given section of trail. Cyclists with lower skill levels, rollerbladers, and people pushing strollers will likely use an asphalt path over an unimproved woodland path. Even stone fines may be impassable by certain user groups. Materials can also be used to control the speed of cyclists.¹¹ An aggregate surface might be preferable in areas where children play, such as near Brass Castle Elementary School, or at intersections to slow bicycle traffic.

As new sections of trail are constructed, a hierarchy of surfaces should be considered, including asphalt or concrete surfacing in high-traffic areas such as those already existing in Meadow Breeze Park and more dense population centers like Phillipsburg and Hackettstown. Ultimately, sections of towpath trail may be surfaced with crushed stone, but, in the foreseeable future, these trails sections will likely remain the way they were when the canal was in operation, as compacted soil. Less frequently used sections of new or existing trail and sections located within natural areas like Allamuchy State Park will likely have an unimproved trail surface.

The AASHTO Guidelines recommend concrete and asphalt surfacing over others because they are low-maintenance and do not present a barrier to any user groups, whereas people in wheelchairs, strollers, or some bicyclists may not be able to navigate a more rugged trail surface. However, many trail officials opt to use crushed aggregate, as it is often less expensive and more quickly installed than a hard surface. Segments of trail that will need to accommodate service and emergency vehicles will need to be surfaced accordingly, including consideration of the underlying subgrade and subbase.

Trail Grade and ADA Accessibility

A trail's grade plays an important role on a user's enjoyment which in turn affects whether they return. It is important to make the distinction between average grade of the trail and specific grade of shorter segments including steeper inclines or declines. A well-designed trail will have a lower average grade of 4-6%, which will increase the users' enjoyment, but will also offer a variety of specific grades to add the challenge of ascent and the release of descent.¹² As much of the Morris Canal Greenway trail will utilize the towpath as its route, its final grade will be below the recommended 4%.

Given the large variety of people using the greenway, accommodating varying abilities should be considered wherever possible. Currently, multi-use trails are not required to meet Americans with Disabilities Act (ADA) requirements along their entire length. Instead accessible



Asphalt paths are usable by pedestrians as well as bicycles, wheelchairs, and strollers.



Unimproved trail surface through a natural area



Concrete path surface



Crushed aggregate on the Delaware Canal towpath

¹¹ Ibid

¹² Optimizing Trail Grade: The Key to Creating Sought-After Trails. Randy Martin, President of Trailscape Inc. Article hosted by AmericanTrails.org <http://www.americantrails.org/resources/trailbuilding/MartinGrade09.html>

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sections should be provided where possible and non-accessible sections should be identified as such. However, as much as possible, the Act should be used as a reference when determining trail grades, surfacing, and pedestrian crossings, particularly in higher-traffic areas, to keep in mind the needs of users with physical or sensory disabilities. Where necessary, ramps, detectable warning strips, and brightly-colored signage should be employed to assist users with different abilities¹³. Grade changes should be kept to a minimum to include the greatest amount of users. Slopes greater than 5% should be avoided if possible, but if they are unavoidable, such as a path that climbs to the top of an inclined plane, the distance of the slope should be limited as much as possible. It is acceptable for 5-6% grade to extend for about 800', but a 10% slope should extend no longer than 100'¹⁴ without a flatter section prior to continuing up again. In the future as new sections of trail are designed and constructed, current ADA requirements should be consulted to ensure compliance.

Erosion Control and Drainage

Construction of new trails or other amenities will likely need to consider mitigating the impacts of erosion. Erosion, or the wearing away of soil, typically by water or wind, is most prevalent on sloped bare soil that is not anchored by vegetation. When disturbing vegetated areas, erosion control measures will be necessary to avoid associated issues such as lowered water quality, wearing away of the trail surface, and increased maintenance costs associated with resurfacing¹⁵. Additional erosion issues will likely be associated with construction of trail segments, or other forces, like the influence the Lopatcong Creek along Route 519 or the rutting and disturbance caused by ATVs seen in the western end of Florence Kuiper's Park.

Avoiding most erosion problems begins with sound trail design and planning. Trails should be located where they will most minimally affect the existing slopes and drainage patterns, so that stormwater is not diverted away from streams, natural drainage ways or wetlands, and does not create erosion problems. Avoiding crossing wetlands and vernal pools will not only reduce trail erosion but also protect these sensitive habitats. Although water is an attractive feature along a trail, it can easily cause erosion issues if the trail passes too closely to the water body. Well-designed trails frame views of the water but prevent trail users from accessing it except from designated stabilized areas¹⁶. Along portions of the existing towpath, few of these issues will be encountered. However, as new trails are created where the towpath cannot be utilized, these factors should be closely considered throughout the process.

Steep slopes invite erosion issues; the steeper the slope, the more vulnerable the surface is to erosion. Keeping slopes gradual and using vegetated buffers, whose roots filter out sediments from storm water and help stabilize the soil, will reduce erosion. Whenever possible, vegetated buffers should be used instead of erosion control fabrics and mats to reduce costs and decrease maintenance requirements. Slopes less than 5% are most desirable in trail construction as they require the least amount of maintenance, accommodate the greatest number of uses, and if designed well, create little erosion. Slopes greater than 5% are less desirable as they increase maintenance requirements and erosion potential¹⁷. However, the sides of the prism along most of the canal are steeper than this 5% and will require additional measures to ensure stabilization.

In addition to erosion issues associated with existing conditions, it is important to address erosion as part of the construction process. On larger projects, design and inclusion of measures to

¹³ American Association of State Highway and Transportation Officials. Guide for the Development of Bicycle Facilities. 1999.

¹⁴ Ibid

¹⁵ New Hampshire Department of Resources and Economic Development, Bureau of Trails. Best Management Practices for Erosion Control During Trail Maintenance and Construction. 2004. <http://atfiles.org/files/pdf/BMPmanual2004.pdf>

¹⁶ Ibid

¹⁷ Ibid

Recommendations

avoid unnecessary erosion will be required as part of the National Pollutant Discharge Elimination System (NPDES) permit process overseen by NJDEP and the local soil conservation district in New Jersey. On smaller projects, those completing the improvements should consider factors to address these issues. Whether a larger job or a smaller job, erosion and sedimentation control measures should be implemented in accordance with the New Jersey Department of Agriculture's Standards for Soil Erosion and Sediment Control. This comprehensive manual provides best management practices for most types of stabilization associated with construction and is the basis for the NPDES permitting process in New Jersey.

Other erosion issues not associated with new construction will likely need to be addressed along the greenway. Other than those specifically mentioned in this report, the characteristics of these will require consideration on an individual basis. In addition to the previously mentioned resources, the New Jersey Department of Transportation's Standard Specifications for Road and Bridge Construction¹⁸ should be utilized in determining appropriate measures for erosion control and stabilization. For topsoil stabilization, section 807 of the specifications identifies different approaches including details on different types of erosion control matting and seed mixes appropriate for specific applications.¹⁹

Pedestrian Crossings

Along the length of the greenway, the route of the trail will be required to cross many roadways, presenting the potential for dangerous pedestrian-vehicular conflicts. Some intersections

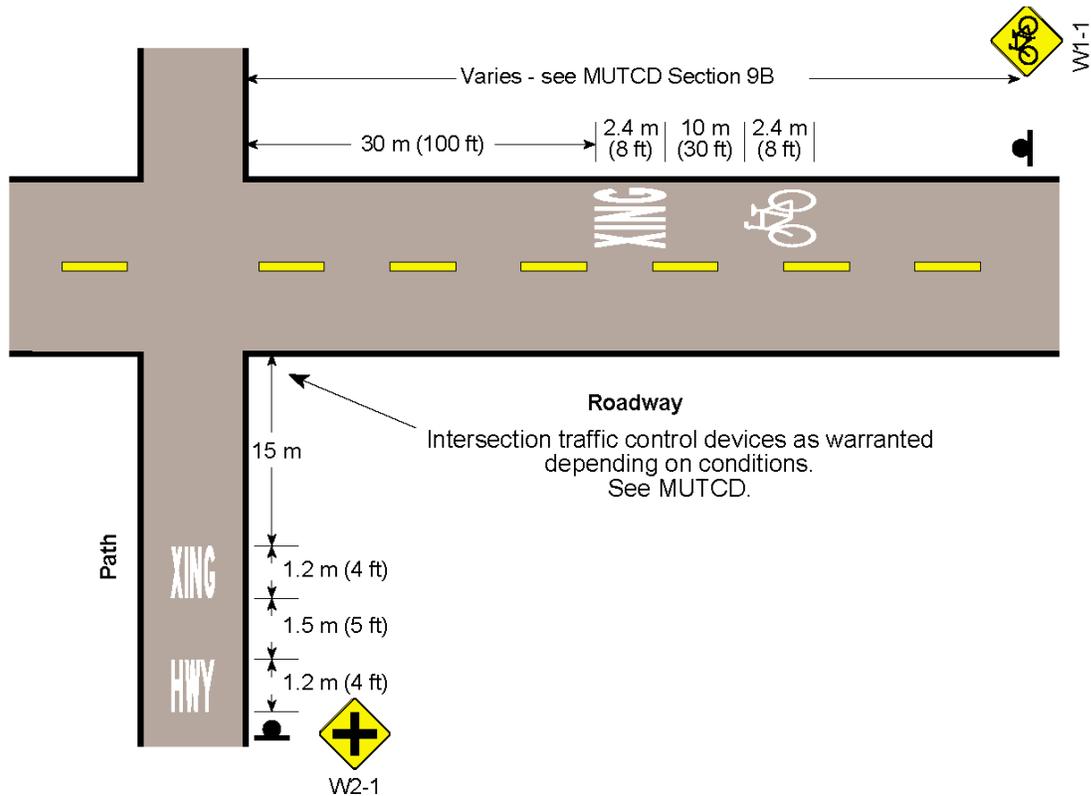


Figure 5-4: Midblock crossing. From AASHTO's *Guide for the Development of Bicycle Facilities*.

¹⁸ New Jersey Department of Transportation Standard Specifications. <http://www.state.nj.us/transportation/eng/specs/2007/Division.shtml>

¹⁹ New Jersey Department of Transportation Standard Specifications <http://www.state.nj.us/transportation/eng/specs/2007/spec800.shtm#s8060301>

Recommendations

are more daunting than others, but all possess individual characteristics which make them unique. As such, studies will need to be conducted regarding the appropriate measures to be taken for each individual intersection. In some cases, a simple crosswalk may be adequate for safe crossing. In others, such as the crossing of Route 22, a traffic signal or even pedestrian overpass might prove necessary.

The AASHTO Guidelines break down intersections into three types: midblock, adjacent path, and complex²⁰, each with a different set of crossing recommendations. Midblock crossings, such as the likely crossing points along Kayharts Lane within Meadow Breeze Park, occur at a point on a road where the sight distances are safe and there is a significant distance to the nearest vehicular intersection. Other midblock crossings, such as the proposed crossing at Bilby Road, have high vehicle speeds and limited sight distances, requiring a great deal of additional consideration. It is

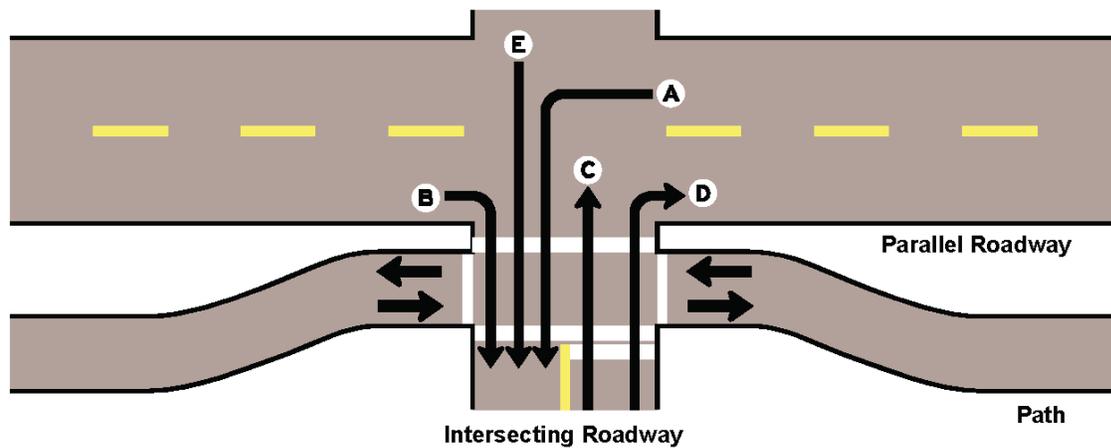


Figure 5-5: Adjacent path crossings occur where a shared use path travelling parallel to a roadway intersects another roadway. From AASHTO's *Guide for the Development of Bicycle Facilities*.

best if the pedestrian path crosses the vehicular path at an angle as close to 90 degrees as possible to increase visibility. Midblock crossings often employ traffic calming measures like speed bumps, low speed limits, painted crosswalks or other signage warning vehicles of the pedestrian crossing²¹. The pedestrian improvements at Strykers Road are a good example of a midblock crossing.

Adjacent path crossings occur where a path traveling parallel to a roadway crosses the street at a vehicular intersection (see figure 5-5). Intersections of this type will be limited and will likely correspond with on-road sections of trail. The pedestrian path should be adequately incorporated into



Midblock crossing at Strykers Road

²⁰ American Association of State Highway and Transportation Officials. *Guide for the Development of Bicycle Facilities*. 1999.

²¹ Ibid

Recommendations

the roadway including a painted bike lane on the roadway, its own traffic signal, or other warning signage. Sightlines on the corners of the intersection are important for safety and should be cleared of barriers and vegetation over two feet tall.

Complex intersections are essentially all other intersections. They usually involve crossing more than one roadway or crossing a roadway with multiple travel and turning lanes²². These crossings must be improved for pedestrians on a case-by-case basis. Some safety features that can be employed are creating refuge islands where pedestrians can safely stop halfway through a wide crossing, walk signals or adjusting the vehicular signal timing. The intersection of South Main and Lock Streets in Phillipsburg is a good example of this type of intersection, although conditions at this intersection are made additionally difficult by the limited sight distances and roadway constrictions created by Green’s Bridge.



“Morris Canal Crossed Here” sign on a trail at Florence Kuipers Park in Hackettstown

Wayfinding System

Wayfinding systems are a collection of signage, both directional and interpretive, that allow visitors a clear understanding of where the path is, where they are on the path, the destinations that can be found along the path, and the significance of these destinations. A well-developed, unified wayfinding system with a clear hierarchy and recognizable branding is a key element in the success of the greenway.

Currently the Morris Canal’s wayfinding system is comprised of several elements:

1. Signs located along roadways or existing trails that denote where the canal once crossed. These signs are in visible locations and bring awareness to the existence of the canal.
2. Interpretive signage found at specific locations such as Bread Lock Park and Plane 9 West. Some signs are large and mounted on a kiosk and feature graphic illustrations of the canal-related implements that were once functional on the site.
3. Yellow trail blazes mark existing sections of trail along the Morris Canal. Occurring on trees, this wayfinding device is obviously more appropriate on sections of trail passing through rural, natural areas. Examples of these can be seen along the trail north of Bilby Road.



Interpretive signage at Plane 9 West

Different methods will be more effective and appropriate in certain places along the canal, but all the different types will have to be recognizable as parts of the whole. With the creation of the greenway, new signage will be necessary to help build its image. The planning team recommends the completion of a complete wayfinding study to thoroughly determine the most effective types and locations for wayfinding elements. The study should yield a result that is simple, cohesive, and creates positive branding for the greenway.



Yellow blazes on an existing trail

²² Ibid

Recommendations: *greenway segments*

Segment 1: Morris Canal Arch to Lock Street - 2.4 miles



Segment one passes through state park land as well as through the downtown business district of the Town of Phillipsburg.

As the western gateway to the Morris Canal, the Town of Phillipsburg plays an important role in providing primary access to the proposed Morris Canal Greenway. The character of the town is shaped in part by the Morris Canal and several other modes of transportation consisting of the Delaware River, used for recreational boating; the Free Bridge, a vehicular and pedestrian connection with the city of Easton, Pa.; active and inactive rail lines serving local and regional industry in New Jersey and Pennsylvania; a

busy Main Street vehicular corridor; and an extensive sidewalk system linking residential and commercial areas. (See Recommendations Maps 1 and 2 in the Maps section of this report). (The WMC references the features identified in the “Historic Preservation Survey of the Morris Canal in Warren County, NJ.” The index is found in Appendix H).

Significant Features of Segment One

- Riverside Park, featuring a boat launch, picnic area and public parking lot
- The Lazy River Outpost, a private boating concessionaire with adjacent parking and a flight of stairs leading down from the parking lot to the Delaware River waterfront.
- The Main Street Commercial Historic District with its interesting architecture, historic markers, interpretive signage, and shops.
- The arch at the Delaware River entrance to the Morris Canal (WMC 194, Appendix H).
- A proposed walkway along the Delaware River’s edge from the boat launch to the stone arch.
- Site of the Delaware River Railroad Excursions, a 14-mile round-trip train ride south along the Delaware River to Carpentersville offered on holidays, weekends during the summer and on special occasions. This activity is accessible from two metered parking lots and a ticket booth along Elizabeth Street.
- The Archaeological site of Plane 11W (WMC 192, Appendix H).
- Union Station (DOE), a historic train station that formerly served the Delaware, Lackawanna and Western Railroad and the Central Railroad of New Jersey, is the home of the Friends of New Jersey Transportation Heritage Center. The building houses artifacts, displays, models, exhibits, dioramas, and gifts related to the New



Lazy River Outpost

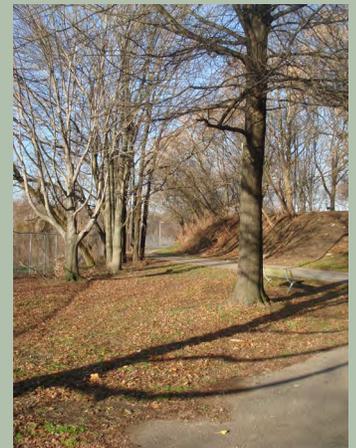


Andover-Morris Elementary School

Recommendations: *greenway segments*

Jersey's historic transportation system (including canals, ferries, trolleys, railroads, buses and trucks).

- Delaware River Park, a 5-acre fenced-in public recreational area providing athletic fields, a skate park, tennis courts, walking paths and Morris Canal historic markers, with a vehicular entrance and parking off of Howard Street.
- Mount Parnassus, a wooded hillside associated with a unique geological formation, and the surrounding Morris Canal archaeological sites of the Stable/Store (WMC 191), Port Delaware Terminal Basin (WMC 190) and Boat Yard (WMC 186), Coal Chutes (WMC 187).
- The archaeological site of the former Andover Iron Company Furnace (WMC 183).
- Andover-Morris Elementary School, featuring an interpretive sign about the relationship of the school to the canal and former Andover Iron Company.
- Archaeological sites in the vicinity of Sawmill Street consisting of the 19th century Riley-Shimer Gristmill (WMC 178) and 19th century Haggerty Sawmill (WMC 179).
- A partially visible stone culvert (WMC 180) and a much deteriorated stone abutment from an aqueduct (WMC 180) that allowed the canal to cross Sawmill Street and Lopatcong Creek respectively.
- Millpond Park, a public open space with a small informal parking lot and a wooded hillside along the Lopatcong Creek, the site of the 19th century Shimer Gristmill (WMC 176).
- Green's Bridge, a stone arch railroad bridge over Lock Street and the Lopatcong Creek.



Delaware River Park



Greens Bridge

Recommendations : greenway segments

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment One Strategies Downtown Phillipsburg to Lock Street

- 1 a** Support Phillipsburg's efforts to develop a riverfront trail including connections to existing parking facilities and the Morris Canal
- 1 b** Investigate the feasibility of crossing railroad to make connections to Delaware River Train Excursion/Main Street and Delaware River Park
- 1 c** Stabilize/restore the canal arch
- 1 d** Support Phillipsburg's efforts to create connections to Easton utilizing abandoned rail bridge.
- 1 e** Develop and install trail markers and interpretive signage in coordination with the Phillipsburg historic district.
- 1 f** Utilize the downtown sidewalk system to create a trail loop to support economic development
- 1 g** Attain Access rights along abandoned rail line from Delaware River to Delaware River Park
- 1 h** Acquisition or dedication of open space in proposed Delaware Heights Townhouse Development property to connect South Main with the canal and/or Delaware River Park via Mercer, Stockton and McKeen Streets.
- 1 i** Engage the Andover-Morris Elementary School in canal preservation efforts
- 1 j** Work with sewage treatment plant to establish towpath trail through site to Mill Pond Park
- 1 k** Improve Mill Pond Park as a trailhead for the eastern terminus of Segment One
- 1 l** Analyze the feasibility of establishing a safe trail connection between Mill Pond Park and Lock Street

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.	increases public and private support for and involvement in canal preservation efforts.
1 a							
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Recommendations : *greenway segments*

Recommendation 1a - Support Phillipsburg's efforts to develop a riverfront trail including connections to existing parking facilities and the Morris Canal

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Final efforts are underway for the Town of Phillipsburg to complete design and construction of a multi-purpose trail beginning at the public boat launch in Riverside Park, off of riverside way, and extending approximately 1,000 feet along the floodplain of the Delaware River to the Morris Canal Arch. Upon completion, this trail will provide ample public parking with off road access to the start of the greenway, while avoiding the potentially dangerous pedestrian crossings at Main Street and the terminus of the 'Free Bridge'.

Recommendation(s):

- A. Open a line of communication with Phillipsburg officials to determine ways in which the County and WCMCC can provide support to the proposed trail project.
- B. Provide official letter of support from Warren County Planning Department and WCMCC to Phillipsburg to be used in funding and permit applications.

Time Frame and Milestones:

- A. 3 Months for initial contact and ongoing from here
- B. 3 Months to provide official letters of support

Costs:

Initial: Additional Staff Time

Operational: None

Funding Sources:

Does Not Apply

Benefits:

Partnership between Phillipsburg and county staff will foster collaborative atmosphere on future greenway improvement projects.

Suggested Implementation Agencies:

- Warren County Planning Department
- Warren County Morris Canal Committee

Recommendations : *greenway segments*

Recommendation 1b - Investigate the feasibility of crossing railroad to make connections to Delaware River Train Excursion/Main Street and Delaware River Park

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Completion of Phillipsburg's waterfront trail from Riverside Park, will allow trail based access from this point to the Morris Canal Arch, but an official crossing to the Delaware River Train Excursion and Main Street businesses needs to be established to be promoted as the official greenway route.

Recommendation(s):

- A. Investigate and pursue the proper contacts at Norfolk Southern and the Black River and Western Rail Road to begin discussions about obtaining an easement crossing.
- B. Work with Norfolk Southern to draft formal access agreement for crossing of right-of-way and use of small portion of rail bed.

Time Frame and Milestones:

- A. Complete within 18 months or completion of the waterfront trail, whichever is first.
- B. Complete by obtaining a formal agreement within 12 to 18 months from first meeting.

Costs:

Initial: \$2,000 (\$50/hour x 40 hours)

Operational: Does Not Apply

Funding Sources:

- New Jersey Department of Environmental Protection
- Town of Phillipsburg
- Warren County

Benefits:

Provides off-road connections to public parking, riverfront attractions and downtown businesses. Completes critical greenway connection between local recreational opportunities.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Town of Phillipsburg
- Warren County Planning Department
- Warren County Department of Land Preservation

Recommendation 1c - Stabilize and preserve the canal arch

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

The Morris Canal Arch is the gateway of the western end of the Morris Canal. It represents the beginning of the Morris Canal and its location also corresponds to the start of the greenway. It is also a totally unique structure along the entire length of the canal and as such represents a potential tourist destination. In its current state it is in need of repair, mostly cosmetic but some structural, to prevent further deterioration. Additionally, as resources allow restoration of the canal arch for interpretive purposes would create a valuable opportunity for telling the story of the Morris Canal.

Recommendation(s):

- A. Commission a study to determine:
 - the current structural stability of the arch and surrounding elements;
 - prioritize stabilization actions if needed; and
 - outline an interpretation and restoration plan; and
 - determine costs associated with the aforementioned activities.
- B. Complete high priority stabilization activities as recommended by the report.
- C. Execute recommendations of interpretation and restoration plans.

Time Frame and Milestones:

- A. Complete study in 4 to 5 years
- B. Funding acquired and stabilization activities started within 2 years after completion of study
- C. Funding acquired and restoration activities started within 10 to 15 years.

Costs:

Initial: \$20,000 to \$40,000 cost of study, cost of improvements dependent on study results

Operational: Does Not Apply

Recommendations : *greenway segments*

Funding Sources:

- New Jersey Department of Transportation
- National Trust for Historic Preservation
- New Jersey Historical Commission
- Preserve America
- Save America's Treasures

Benefits:

Full restoration and interpretation of the canal arch will help to make Phillipsburg a greenway destination by providing opportunities to view a unique resource along the length of the trail. The increased traffic will bring more consumers into Phillipsburg and the businesses located with access to the greenway. Restoration of this resource will allow the public to better understand a unique element of the Morris Canal.

Suggested Implementation Agencies:

- Canal Society of New Jersey
- Town of Phillipsburg
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 1d - Support Phillipsburg's efforts to create connections to Easton utilizing abandoned rail bridge

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Efforts are currently underway by the City of Easton and Phillipsburg to provide a pedestrian connection linking the two cities across the Delaware River utilizing the abandoned railroad bridge connecting into Phillipsburg in the area of the parking lot currently utilized by the Delaware River Train Excursion. Completion of this connection would provide trail based connections to the City of Easton, as well as the Delaware and Lehigh Canal National Heritage Corridor and associated D&L Trail, vastly expanding the trail-based reach of the Morris Canal Greenway.

Recommendation(s):

- A. Open a line of communication with Easton and Phillipsburg officials to determine ways in which the county and WCMCC can provide support to the proposed bridge connection.

Recommendations : *greenway segments*

Time Frame and Milestones:

A. Make contact within 6 months.

Costs:

Initial: Staff Time

Operational: Does Not Apply

Funding Sources:

Warren County

Benefits:

Pedestrian connections to Easton and D&L trail provide off-road access to a larger audience, increasing potential customers for businesses located along or close to the greenway. Connection to Easton and D&L trail drastically increases the potential trail and attraction connections in Pennsylvania and instantly provides regional connections for the Morris Canal Greenway.

Suggested Implementation Agencies:

- City of Easton
- Town of Phillipsburg
- Warren County Morris Canal Committee
Warren County Planning Department

Recommendation 1e - Develop and install trail markers and interpretive signage in coordination with the Phillipsburg historic district

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

Create programmatic connections and work to cross-sell historic resources by installing interpretive signage highlighting the connections between the Morris Canal and Phillipsburg Historic District.

Recommendations : *greenway segments*

Recommendation(s):

- A. Work with local historic societies to identify appropriate resources for interpretation.
- B. Based on the locations of the resources identified, develop a loop trail or connections to other existing or planned trails in the Phillipsburg area to provide connections.
- C. Install trail markers and prepare maps and brochures containing the appropriate information.

Time Frame and Milestones:

- A. Completed within 4 years
- B. Complete within 6 months of the completion of task A
- C. Complete within 18 months of the completion of task B

Costs:

Initial: Task A: Staff Time
Task B: \$5,000 cost of trail blazes
Task C: \$15,000 cost of brochure design and printing fees

Operational: Does Not Apply

Funding Sources:

- Andover-Morris Elementary School
- City of Easton
- Town of Phillipsburg

Benefits:

Promotes visitors from greenway to interact more with downtown Phillipsburg and the businesses located there. Provides greater educational opportunities and expands the audience for interpretation of the canal and other local historic resources.

Suggested Implementation Agencies:

- Phillipsburg Area Chamber of Commerce
- Phillipsburg Historical Society
- Warren County Convention & Visitors Bureau
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Regional Chamber of Commerce

Recommendations : *greenway segments*

Recommendation 1f - Utilize the downtown sidewalk system to create a trail loop to support economic development

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

Collaborate with the Town of Phillipsburg to develop, mark, and map Downtown Phillipsburg Loop Trail, connecting South Main Street to the greenway: at the Free Bridge; from Market Street; and where the greenway converges with South Main Street, at McKeen Street.

Recommendation(s):

A. Develop and sign Downtown Phillipsburg Loop Trail

Time Frame and Milestones:

A. Complete within 3 to 4 years.

Costs:

Initial: \$2,000 (cost of trail marking)
\$5,000 (cost of map design and reproduction)

Operational: Does Not Apply

Funding Sources:

- Phillipsburg Area Chamber of Commerce
- Warren County Convention & Visitors Bureau
- Warren County Regional Chamber of Commerce

Benefits:

Completed trail would provide exposure to downtown business district from greenway. Trail would create a convenient loop trail within the Town of Phillipsburg enhancing recreational activities.

Suggested Implementation Agencies:

- Phillipsburg Area Chamber of Commerce
- Town of Phillipsburg
- Warren County Morris Canal Committee

Recommendations : *greenway segments*

Recommendations 1g - Attain access rights along abandoned rail line from Delaware River to Delaware River State Park

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Completion of Phillipsburg's waterfront trail from Riverside Park, will allow trail based access from this point to the Morris Canal Arch and Delaware River Train Excursion. However, official continuation of the greenway and connection to Delaware River Park is blocked by lack of permission to cross and continue along the abandoned Norfolk Southern rail line for a short distance. Permission to utilize this right-of-way would provide a valuable connection for the greenway. This recommendation should be completed in conjunction with Recommendation 1B.

Recommendation(s):

- A. Investigate and pursue the proper contacts at Norfolk Southern to begin discussions about obtaining access rights.
- B. Work with Norfolk Southern to draft formal access agreement for crossing of right-of-way and use of small portion of rail bed.

Time Frame and Milestones:

- A. Completed within 18 months or upon completion of the waterfront trail, whichever is first.
- B. Completed by obtaining a formal agreement within 12 to 18 months from first meeting.

Costs:

Initial: \$2,000 (\$50/hour x 200 hours)

Operational: Does Not Apply

Funding Sources:

- New Jersey Department of Environmental Protection
- Warren County

Benefits:

Provides off-road connections to public parking, riverfront attractions and downtown businesses. Completes critical greenway connection between local recreational opportunities.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Town of Phillipsburg
- Warren County Department of Land Preservation
- Warren County Planning Department

Recommendation 1h - Acquisition or dedication of open space in proposed Delaware Heights Townhouse Development property to connect South Main with the canal and/or Delaware River Park via Mercer, Stockton and McKeen Streets

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Attain access rights to legitimize existing rogue trail connecting Delaware River Park to McKeen Street, through the proposed Delaware River Heights development.

Recommendation(s):

- A. Work with land owner to attain access rights for existing rogue trail through this piece of property. Access agreement should also include provisions to retain and improve greenway connections should the Delaware Heights project be constructed.

Time Frame and Milestones:

- A. Completed agreement in 2 years

Costs:

Initial: \$1,000 (\$50/hour x 20 hours)

Operational: Does Not Apply

Funding Sources:

- Town of Phillipsburg
- Warren County

Recommendations : *greenway segments*

Benefits:

Creates off road connections between the greenway, residential areas, and downtown businesses. Provides a critical trail link in Phillipsburg for the greenway, Phillipsburg loop trails and providing trail connections between residential portions of the town and Delaware River Park.

Suggested Implementation Agencies:

- Town of Phillipsburg
- Warren County Department of Land Preservation
- Warren County Planning Department

Recommendation 1i - Engage the Andover-Morris Elementary School in canal preservation efforts

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

The former route of the Morris Canal once traversed the property of this elementary school. The existing sidewalk along South Main Street passes in front of the school where an interpretive sign made by the WCMCC has been installed to tell the public about the canal's history in the area. A nearby gap in the sidewalk along South Main Street just to the east of Sawmill Street interrupts the proposed route of the greenway trail in this area. A bypass route around this gap would require the greenway trail to turn off of the South Main Street sidewalk onto Morris Canal Way, proceed on Morris Canal Way along the southeastern most property boundary of the school (since there is no sidewalk along this roadway), cross Sawmill Street and then proceed through the sewage treatment plant property before returning to the existing sidewalk to the east of the gap along South Main. A new sidewalk on school property along Morris Canal Way would make this alternative route safer.

Recommendation(s):

Work with the school district to determine the feasibility of dedicating approximately 400 linear feet of road frontage along Morris Canal Way for use as a trail.

- A. Meet with the school administration to discuss the proposed greenway and trail location. Invite representatives of the sewage treatment plant and Phillipsburg municipal officials to attend as well to coordinate trail planning efforts throughout the town.
- B. If the school is willing to provide land for a trail, prepare appraisal, legal agreement and design plans that can be used to prepare a legal agreement to acquire access rights for use of the land (easement or purchase, as desired).

Recommendations : *greenway segments*

- C. Review the design plans with the school district, Phillipsburg municipal officials and sewage treatment plant representatives and execute the agreement with the school district. Determine whether the school district would be willing to maintain the sidewalk if constructed by Warren County and whether the municipality would be willing to accept dedication of any new right-of-way for the sidewalk. Discuss any additional interpretive opportunities that can be included in the design of this project in coordination with the School Education and Public Education Project Strategies.
- D. Construct the proposed trail connection along Morris Canal Way in coordination with the development of the trail through the sewage treatment plant to bypass the South Main Street sidewalk gap.

Time Frame and Milestones:

- A. Complete within 1 month.
- B-D. Contingent upon an agreement to extend the trail through sewage treatment plant property in accordance with Segment One Project Strategy 1h.

Costs:

- Initial:* Task A = \$500 (\$50/hour x 8 hours + \$25/hour x 4 hours)
Task B = \$25,000 budget for appraisal, legal fees, survey, design and project management.
Task C = \$2,500 (\$50/hour x 40 hours + \$25/hour x 20 hours)
Task D = \$30,000 budget for new concrete sidewalk, relocate/replace existing chain link fence, lawn restoration.

Operational: Ask school district to maintain sidewalk as an additional contribution to the greenway.

Funding Sources:

- Community Development Block Grant
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Potential revenue from heritage tourism. Broader financial support for the greenway and trail through the participation of the school district. Recreational and educational benefits from the completion of a continuous greenway trail access within Phillipsburg.

Suggested Implementation Agencies:

- Andover-Morris Elementary School
- Phillipsburg Municipal Officials
- Warren County Engineering Department
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 1j - Work with sewage treatment plant to establish towpath trail through site to Mill Pond Park

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Creation of a trail connection (approximately 1,500 linear feet) through the Phillipsburg sewage treatment plant will provide a connection from Morris Canal Way and the Andover Morris Elementary School, or alternately using the existing sidewalks along Main Street, which end at Sawmill Street, to Mill Pond Park.

Recommendation(s):

- A. Develop agreement and obtain access rights
- B. Design trail
- C. Construct trail

Time Frame and Milestones:

- A. Completed in 18 months
- B. Completed in 8 months
- C. Completed in 3 months

Costs:

Initial: \$5,000 to \$7,500 for trail design
\$8,000 to \$16,000 for construction

Operational: Does Not Apply

Funding Sources:

- Rails-to-Trails grant programs
- New Jersey Trails Grant Program
- Warren County

Benefits:

Completes Phillipsburg trail segment and provides trail based connection from Andover Morris Elementary to resources along the Delaware River.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Phillipsburg Sewer Authority
- Town of Phillipsburg
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 1k - Improve Mill Pond Park as a trailhead for the eastern terminus of Segment One

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Improve existing gravel parking area at Mill Pond Park to create trailhead, serving as west end of the Phillipsburg trail segment.

Recommendation(s):

A. Design and construct trail head. New trailhead should include:

- Adequate parking;
- Informational kiosks;
- Interpretive signage; and
- Public restrooms.

Time Frame and Milestones:

A. Complete in 5 years

Costs:

Initial: \$30,000

Operational: Operational costs will be assumed by Town of Phillipsburg

Funding Sources:

- Rails-to-Trails grant programs
- New Jersey Trails Grant Program
- Town of Phillipsburg

Recommendations : *greenway segments*

Benefits:

Completion of trail head will provide safe and convenient access for trail users accessing the Phillipsburg segment from the east.

Suggested Implementation Agencies:

- Town of Phillipsburg
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 11 - Analyze the feasibility of establishing a safe trail connection between Mill Pond Park and Lock Street

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Completion of the connection from Riverside Park to Route 22 may be one of the quickest portions of the overall greenway to be completed. The largest hurdle in completing this portion of the greenway is the constriction created as South Main Street passes under Greens Bridge. The location of the bridge arches to the roadway leaves almost no space to safely include a trail connection. Additionally, the greenway trail will need to cross South Main Street in this area. The high rate of speed, offset intersections of Carpentersville Road and Lock Street and extremely limited sight distances, make this crossing especially difficult.

Recommendation(s):

- A. Complete a traffic/pedestrian crossing study to analyze the feasibility and develop strategies to provide greenway access and safe pedestrian crossing in this area.

Time Frame and Milestones:

- A. Complete study within 5 years

Costs:

Initial: \$7,000

Operational: Does Not Apply

Recommendations : *greenway segments*

Funding Sources:

- NJ Department of Transportation
- US FHWA Transportation Enhancements

Economic Benefits:

Removal of these barriers will connect two segments of the greenway which are very close to completion. Creation of pedestrian crossing and safe route under bridge will provide safe access from the neighborhood off of Lock Street to the remainder recreational opportunities in Phillipsburg.

Suggested Implementation Agencies:

- Town of Phillipsburg
- New Jersey Department of Transportation
- Warren County Planning Department

Recommendations : *greenway segments*

Segment 2: Lock Street to Route 22 - 1.1 miles



The segment from Lock Street to Route 22 is a suburban transition from densely populated downtown Phillipsburg through residential neighborhoods and along a few farms to the major commercial strip of the Route 22 corridor. The sidewalk system, which is absent along South Main Street east of Millpond Park, is present along the north side of Lock

Street between the intersections of South Main and Ridge Street where it ends. No public parking lots exist within this segment, although some on-street parking is permitted. (See Recommendations Map 2 located in the Maps section of this report). (The WMC references the features identified in the "Historic Preservation Survey of the Morris Canal in Warren County, NJ." The index is found in Appendix H).

Street between the intersections of South Main and Ridge Street where it ends. No public parking lots exist within this segment, although some on-street parking is permitted. (See Recommendations Map 2 located in the Maps section of this report). (The WMC references the features identified in the "Historic Preservation Survey of the Morris Canal in Warren County, NJ." The index is found in Appendix H).

Significant Features of Segment Two

- The former Young's Canal Store (WMC 170) and Uhler Grist Mill (WMC 173) properties currently being used for commercial purposes.
- The archaeological site of Lock 10W (WMC 172) under and immediately north of South Main Street.
- Two parks with athletic fields (Parkside Ballfield) at the intersection of Chestnut Street, one of which includes a historic route marker for the Morris Canal.
- The archaeological site of Lock 9W (WMC 167) under Lock Street and the former locktender's house and Carty Canal Store (WMC 168) now being used as residences.
- The archaeological site of Lock 8W (WMC 164), more commonly known as Sharp's Lock, and the former locktender's house, currently a private home with an historic marker identifying it as the site of Sharp's Lock.
- Lock Street Park, consisting of a pathway, benches, landscaping and interpretive signage highlighting the canal features along this roadway and the historic Green's School.
- Valley View Historic District, a neighborhood of homes at the north end of Ridge Street constructed by Thomas Edison using Portland Cement from his nearby concrete plant in New Village.



The Locktenders House at the site of Lock 9W



The Lopatcong Creek

Recommendations : *greenway segments*

- Remnants of Plane 10W and a lime kiln ruin. An archaeological investigation of plane ruins is planned for 2012.
- The former plane tender's house, now a residence.
- An overgrown section of partially intact canal prism between Plane 10W and Route 22.
- Phillipsburg Mall, a regional shopping center with national and local retail stores.

Much of the canal and its related features were buried or destroyed during the construction of Lock Street and the subsequent modification of canal buildings and the historic mill as private homes or businesses. A recently completed walking-tour brochure of Lock Street was prepared by the WCMCC to explain what this area once looked like when the canal was in operation. The construction of Route 22 over the canal completely cuts this segment off from the canal and other segments to the east of this highway. It appears that there is insufficient room between the higher grade of Route 22 and the lower grade of the canal for the canal to pass below this highway if reconstruction of the canal is attempted.

The existing sidewalk acts as a thread to link the elements at the western end of Lock Street to sidewalks along Ridge Street and Lock Street Park. However, Lock Street narrows north of Ridge Street and crosses Lopatcong Creek via a small stone bridge that barely permits two-way traffic, limiting the possibility of extending sidewalks north of Ridge Street. There is a small bridge across the Lopatcong Creek on private property on the east side of Lock Street across from Lock Street Park that could provide access to ruins of Plane 10W and the lime kiln if permission could be obtained from this landowner. Plane 10W is separated from the partially intact canal to the north by private property.

At the eastern end of this segment, a proposed residential development, known as Sycamore Landing, is both a possible threat and a potential asset to canal preservation efforts, as the current development plans show utilization of the canal for stormwater detention and an internal sidewalk system that could interconnect the canal with the Phillipsburg Mall. However, the only sidewalks within the mall complex are located immediately around the stores themselves. No provisions currently exist for pedestrians and bicyclists to cross Route 22, although three intersections (only one signalized) provide vehicular access into and out of the mall.

4



Valley View Historic District Entrance



Lock Street Park

Recommendations : *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Two Strategies Lock Street to Route 22

- 2 a Investigate feasibility of using bridge near Ridge and Lock Street intersection to cross street to access Plane 10W.
- 2 b Promote sidewalk linkage and programmatic connection between Lock Street Park and Valley View Historic District.
- 2 c Complete archaeological investigation at Plane 10W
- 2 d Promote use of self-guided walking tour from Green's Bridge along Lock Street
- 2 e Establish pedestrian friendly on/off road trail connection from Lock St Park to Sycamore Landing
- 2 f Construct parking area on County property in conjunction with completion of Sycamore Landing trail segment
- 2 g Investigate feasibility of crossing Route 22 below grade at the Lopatcong Creek with a pedestrian bridge at the existing canal crossing or at grade at signalized intersection with Phillipsburg Mall
- 2 h Connect towpath to Phillipsburg Mall via proposed sidewalks in Sycamore Landing development

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

- highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals
- tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.
- interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.
- provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.
- stimulates the local economy through heritage tourism.
- leverages the value of the canal to support sound land use planning decisions.
- increases public and private support for and involvement in canal preservation efforts.

Recommendation 2a - Investigate feasibility of using bridge near Ridge and Lock Street intersection to cross street to access Plane 10 W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Utilizing the existing bridge to cross the Lopatcong Creek in the vicinity of the intersection of Ridge and Lock Streets would eliminate the need to create provisions for an on-road trail along Lock Street, from the point at Lock Street Park where the existing sidewalk ends to Plane 10W. While traffic on this portion of Lock Street is minimal, its narrow width and charming character make it difficult to provide on-road trail accommodations without significant alterations. Using this bridge would also allow greenway access to the residential neighborhoods on the east side of the creek and as well as access to the Parkside Ball Field from the greenway.

Recommendations : *greenway segments*

Recommendation(s):

- A. Contact landowner and explore potential for access agreement or aquisition to allow trail access across the existing bridge, along the eastern side of the Pohatcong Creek to the base of Plane 10W.

Time Frame and Milestones:

- A. Make initial contact within 1 to 2 years and formalize agreement within a year after contact has been made.

Costs:

Initial: \$1,000 (\$50/hour x 20 hours) and cost of easement and aquisition which is unable to be determined at this time

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- Warren County

Benefits:

Connection across the Pohatcong Creek in this location will provide the potential for an off-road trail route, bypassing portions of Lock Street. This connection will also allow access to the greenway from the residential developments to the west of the Creek, as well as access from the greenway to the Parkside Ball Field

Suggested Implementation Agencies:

- Warren County Board of Recreation Commisioners
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 2b - Promote sidewalk linkage and programmatic connection between Lock Street Park and Valley View Historic District

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience.

Recommendations : *greenway segments*

Project Description:

The WCMCC has developed a self-guided walking tour and accompanying brochure of Lock Street to support the interpretation of Morris Canal resources in the area. Lock Street Park also includes interpretive signs about the historic canal, Green's School and the concrete homes built by Thomas Edison for Ingersoll Rand's workers in a nearby residential neighborhood known as Valley View. Educational programs featuring these local historic resources would be enhanced if the existing sidewalk system would provide a pedestrian connection between Lock Street Park and the Valley View neighborhood so that visitors could see the canal and concrete homes during a walking tour of the area. However, there is a gap in the existing sidewalk system along Ridge Street preventing a safe pedestrian connection between the nationally significant historic resources of the canal and Valley View neighborhood.

Recommendation(s):

Work with local landowners and municipal officials to install approximately 700 LF of sidewalks along Ridge Street in Phillipsburg to interconnect Lock Street Park with the Valley View Historic District to support the interpretation of local history.

- A. Meet with Phillipsburg municipal officials to discuss the need to interconnect Lock Street Park with the Valley View neighborhood to support greenway visitation and interpretation goals.
- B. Assist Phillipsburg municipal officials in contacting local landowners to seek any necessary right-of-way acquisition for the construction of the proposed sidewalk connection.
- C. Assist Phillipsburg municipal officials in pursuing funding to acquire any needed right-of-way and construct sidewalk improvements to eliminate the gap in pedestrian access between the canal and Valley View neighborhood.

Time Frame and Milestones:

- A. Complete within 1 month.
- B. Complete within 6 months
- C. Complete within 2 years.

Costs:

Initial: \$3,000 (\$25/hour x 40 hours + \$50/hour x 40 hours)

Operational: Does Not Apply

Funding Sources:

- Community Development Block Grant

Benefits:

Potential revenue from heritage tourism. Broader financial support for the greenway and trail through the participation of the local landowners and municipal officials in Phillipsburg. Recreational and educational benefits from the completion of a continuous greenway trail access within Phillipsburg.

Recommendations: *greenway segments*

Suggested Implementation Agencies:

- Phillipsburg Municipal Officials
- Private property owners
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 2c - Complete archaeological investigation at Plane 10W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

A grant has been obtained to conduct an archaeological survey at Plane 10W to investigate the remnants of this structure to increase public understanding of inclined plane operations along the Morris Canal. This work should be completed and the results utilized in coordination with School and Public Education Project Strategies.

Recommendation(s):

Investigate the archaeological resources at Plane 10W for the purposes of historical documentation and interpretation.

- A. Perform the archaeological survey of Plane 10W in accordance with professional standards and grant funding requirements, recording all findings for historical purposes.
- B. Identify those archaeological resources uncovered that can best be used to interpret the operation of an inclined plane and develop a plan for integrating them into existing and new educational programs in keeping with School and Public Education Project Strategies.

Time Frame and Milestones:

- A. Complete within 1 year.
- B. Complete within 6 months.

Costs:

Initial: Task A = \$45,000 already secured

Recommendations : *greenway segments*

Operational: Task B = \$2,500 (\$25/hour x 100 hours)

Funding Sources:

- \$45,000 grant from the New Jersey Historic Trust
- American Express
- National Trust for Historic Preservation
- New Jersey Historical Commission

Benefits:

Broadening of financial support for preservation efforts through grant funding. An improved understanding of the operation of an inclined plane, a unique engineering feature of the Morris Canal and the potential retrieval of artifacts from the site for future display and interpretation as part of educational activities for school students and the public.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 2d - Promote use of self-guided walking tour from Green's Bridge along Lock Street

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

The WCMCC recently published a color brochure for use by visitors interested in taking a self-guided tour of the Morris Canal resources along Lock Street. The brochure highlights historic buildings and homes in addition to canal structures from Green's Bridge to Plane 10W. This document is one of a series of brochures developed by the WCMCC to interpret the canal in relationship to the communities through which it passes. The completion of every project by the WCMCC, including the release of a new brochure, is an opportunity to publicize canal preservation efforts and encourage public participation in canal activities.

Recommendation(s):

Promote the release of this new brochure to encourage the public to take the self-guided walking tour.

Recommendations : *greenway segments*

- A. Include an announcement of the new brochure on the Morris Canal Greenway website. If possible, update the Lock Street webpage to include a link to the brochure and move the Lock Street webpage to the “Tour” section of the website.
- B. Send out a press release to publicize the new brochure. Include information as to how the public can obtain a brochure from the WCMCC and how the public can participate in other canal tours.
- C. Distribute the brochure to key public facilities and tourist promotion organizations/sites along the greenway, with emphasis on partners and locations in the Phillipsburg area.
- D. Distribute the brochure as part of WCMCC educational programs and at Bread Lock Park and Plane 9W.
- E. Document the success of this promotional approach to assess its usefulness in publicizing any new brochures developed by the WCMCC.

Time Frame and Milestones:

- A. Complete within 1 month.
- B-E. Complete on an on-going basis.

Costs:

Initial: \$500 (\$25/hour x 20 hours) To Set up Program

Operational: \$500 annually (\$25/hour x 20 hours) to promote brochures + reprinting costs, as needed.

Funding Sources:

- Warren County

Benefits:

Potential increased revenue from heritage tourism. Increased awareness and appreciation for canal preservation efforts and participation in interpretive programs offered by the WCMCC, such as self-guided walking tours.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee

Recommendation 2e - Establish pedestrian friendly on/off road trail connection from Lock St Park to Sycamore Landing

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

Recommendations : *greenway segments*

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Sidewalks along Lock Street extend to its intersection with Ridge Street, at Lock Street Park. From this point to Plane 10W, the narrow character of Lock Street limits the speeds at which vehicles are likely to travel, reducing the danger of traveling directly in the roadway. However, the narrow roadway and historic buildings in close proximity to the roadway limit the ability to expand the road or install sidewalks to provide adequate room for safe travel. Utilizing the bridge, as identified in recommendation 2a, and cooperation of adjacent land owners would allow the potential route in this location to bypass the roadway to Plane 10W, but would also bypass the historic buildings located along Lock Street.

From Plane 10W to the proposed Sycamore Landing development, the character of Lock Street becomes much more rural. The sight distances along the roadway are also reduced while travel speeds seem to increase. Along this portion of the greenway, it would be beneficial to work closely with the surrounding land owners to establish an off-road route bypassing this portion of Lock Street.

Recommendation(s):

- A. Work closely with land owners along the length of Lock Street and path of the canal to establish a trail from the Lock Street Park to the proposed Sycamore Landing development.

Time Frame and Milestones:

- A. Trail completion within 5 years

Costs:

Initial: Cannot be determined at this time. Likely costs will be associated with: land owner agreements; acquisitions; and trail construction.

Operational: Unable to be determined at this time.

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- Rails-to-Trails grant programs
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Trail connection through this area would expand the reach and appeal of the Lock Street Walking Tour and the Valley View Historic District, enhancing heritage tourism opportunities. It would also provide local residents potential greenway based access to the Phillipsburg Mall and surrounding businesses. Trail connections will provide trail based access to Phillipsburg Mall. Upon completion of

Recommendations : *greenway segments*

Sycamore Landing, access to Lock Street Park and potentially Phillipsburg will be achievable via the trail.

Suggested Implementation Agencies:

- Lopatcong Township
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 2f - Construct parking area on County property in conjunction with completion of Sycamore Landing trail segment

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Until a viable crossing for Route 22 can be established the small parcel of county owned open space, adjacent to the proposed Sycamore Landing development, represents the functional end of this portion of the greenway. As such it would be beneficial to provide trailhead facilities to serve local residents accessing the trail from the surrounding areas. To limit maintenance responsibilities, trailhead facilities in this area should be limited to parking and an informational kiosk. Should additional facilities be required, they can be added at a future point.

Recommendation(s):

- A. Design and construct a trailhead with limited facilities.

Time Frame and Milestones:

- A. Can be completed in conjunction with Sycamore Landing project or at a later date as funding allows.

Costs:

Initial: \$15,000 to \$20,000 (assumes 10 spaces and limited improvements)

Operational: \$2,000 to \$3,000 yearly.

Funding Sources:

- Rails-to-Trails grant programs
- New Jersey Recreational Trails

Recommendations : *greenway segments*

- Green Acres
- Warren County

Benefits:

Creation of trailhead facilities provide a safe location for greenway users, not residing directly adjacent to the greenway, the ability to access these facilities, expanding the user groups.

Suggested Implementation Agencies:

- Lopatcong Township
- Warren County Planning Department
- Warren County Morris Canal Committee

Recommendation 2g - Investigate feasibility of crossing Route 22 at grade at signalized intersection with Phillipsburg Mall, below grade at the Lopatcong Creek, with a pedestrian bridge at the existing canal crossing, or under Route 22 at the existing canal crossing.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Along the length of the entire greenway in Warren County, the single largest obstacle to providing trail connections may be Route 22. The historic route of the canal crosses this roadway just north of the Phillipsburg Mall. At this location the grade of the roadway is approximately 20' higher than the elevation of the canal on the east and 40' higher on the west side. This condition creates very steep slopes approaching the shoulder from either side. In addition, the roadway at this point is comprised of two lanes of traffic in either direction with posted speeds of 55mph, with actual travel speeds likely higher. Guiderails are located along each shoulder, as well as in the median in the center of the roadway. These characteristics combined make the point of the canal crossing a very difficult and dangerous place to cross the roadway.

Crossing Route 22 could utilize one of four potential strategies. The first would utilize a connector trail along the shoulder of the highway, potentially constructed as part of the Sycamore Landing development, to provide a crossing point in conjunction with the signalized entry of the Phillipsburg Mall. This still requires greenway users to cross the roadway and creates potential for pedestrian/auto conflicts. This recommendation also requires obtaining access easements or rights from several land owners, providing access back to the route of the greenway.

Recommendations : *greenway segments*

The second involves utilizing the existing drainage culvert where the Lopatcong Creek travels under Route 22. While this structure exists today and can be utilized to cross below the roadway, employing it as the official route of the greenway may be difficult. The culvert is approximately 4' high and typically has some water flowing through it. The low height would make this a difficult passage for many types of trail users. Water from the creek would make provision of a suitable trail surface difficult and during significant portions of the year, this portion of the trail would be totally inaccessible. Given the constraints and challenges associated with this option, it is not likely it is a realistic alternative.

The third would be to provide a pedestrian bridge from one side of the roadway to the other. A similar bridge crosses Route 22 in Palmer Township, Pennsylvania and provides connections for the Wilson Bike Path and recreation facilities. From a safety standpoint, this option seems to be the most viable and preferred. However, the cost of constructing such a bridge would be quite high and the steep grades on the roadway shoulders would make meeting ADA standards quite difficult.

The fourth would be to "tunnel" under Route 22 to make the connection between Sycamore Landing and the County owned property on the other side. This solution presents a host of engineering, funding, and other issues that would need to be addressed in a study.

Recommendation(s):

A. Complete a study to determine the best solution for crossing Route 22.

Time Frame and Milestones:

A. Complete study within 5 to 10 years

Costs:

Initial: \$15,000 to \$20,000 cost of study

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- North Jersey Transportation Planning Authority
- Rails-to-Trails grant programs
- US FHWA Transportation Enhancements

Recommendations : *greenway segments*

Benefits:

Crossing of State Route 22 would allow a much larger user group to access the trail and the amenities along its length. Connection of these greenway sections would provide trail based access across State Route 22. Currently almost no safe pedestrian crossing points exist within the vicinity.

Suggested Implementation Agencies:

- Greenwich Township
- Lopatcong Township
- New Jersey Department of Transportation
- Pohatcong Township
- Warren County Engineering Department
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department

Recommendation 2h - Connect towpath to Phillipsburg Mall via proposed sidewalks in Sycamore Landing development

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Independent of efforts to develop a strategy for the greenway to cross State Route 22, efforts should be made to provide connections to the Phillipsburg Mall from the greenway. Currently, most of this connection could be made via sidewalks in the proposed Sycamore Landing Development. Only a small portion of the connection would remain uncompleted after construction of this development. This portion, connecting the development with the mall, could be completed on the property of the development or along the shoulder of State Route 22, where ample room exists. Given traffic speeds and volumes on State Route 22, a proposed connection must be set back adequately far from the edge of the roadway or otherwise be separated by a suitable barrier.

Recommendation(s):

- A. Determine route utilizing sidewalks and roadway shoulder to provide access to the Mall.

Recommendations : *greenway segments*

Time Frame and Milestones:

A. Route construction to be completed in concert with the completion of the Sycamore Landing Development. As of this writing, Sycamore Landing is in process of securing development approvals

Costs:

Initial: Costs to be covered as part of Sycamore Landing project.

Operational: Covered by Sycamore Landing, Home Owners Association and maintenance activities associated with the mall.

Funding Sources:

- Sycamore Landing Home Owners Association

Benefits:

Connections to mall and associated business provide access for greenway users, but also provide a trail-based route for other residents to access the businesses at the mall. Provides alternate route to the Phillipsburg Mall for local residents who may not have access to vehicles and contiuos trail connections for greenway users.

Suggested Implementation Agencies:

- Lopatcong Township
- Sycamore Landing Developer
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway segments*

Segment 3: Route 22 to Plane 9 West- 1.0 mile



A mixture of land uses shape the character of this segment. As the canal continues east, it is mostly intact along the side and considerably downhill of commercial properties abutting Route 22 before it passes through farm fields where attractive views of a farmstead and Lopatcong Creek can be seen to the north. (See Recommendations Maps 2 and 3 in the Maps section of this report). These views are slightly marred by the presence of

overhead power lines. A pedestrian crosswalk with signage marking the location of the canal has been installed along Strykers Road where the canal has been interrupted by the construction of this roadway. Restoration of the canal prism and towpath between Route 22 and Strykers Road is being completed using transportation enhancement funding. Because the land along Strykers Road is zoned as industrial, continued development pressure related to the Route 22 corridor has the potential to significantly alter the existing landscape along the canal.



Strykers Road crosswalk

East of Strykers Road, the canal enters an area overgrown with vegetation. As it approaches Route 519, the path of the canal is bounded by the Lopatcong Creek to the north and with residential properties along Route 519 to the south. Erosion of the canal by the Lopatcong Creek is apparent, and additional stormwater runoff is being directed toward the canal's overflow weir (WMC 155, see Appendix H for WMC references) via several drainage culverts under Route 519. A study is presently under way by the North Jersey Resource Conservation and Development to address how these erosion and drainage problems can be resolved by the county.

The intersection of the canal with heavily traveled Route 519 offers several challenges created by the simultaneous desire to take in the overall view of the impressive engineering feat of Plane 9W (WMC 151) while concentrating on safely crossing the roadway. The odd angle at which the canal intersects Route 519 makes for an awkward approach to this road crossing, and the existing driveways associated with Plane 9W and the Stine House are somewhat diagonally opposite each other. There are no sidewalks or pedestrian crossings along Route 519 with the exception of the sidewalks within the Overlook at Lopatcong residential development to the north.

Recommendations : *greenway segments*

An existing gravel driveway following the former route of the canal towpath provides vehicular access to Plane 9W, “the longest and highest plane on the Morris Canal (1,510 feet long to its summit and 1,788 feet long from end to end)” and “one of three planes with a double set of tracks.”²³

Significant Features of Segment Three

- Inclined Plane #9 West
- A section of the Lopatcong Creek along Route 519.
- Archaeological remnants of the Cline Canal Store and store owner’s house (WMC 153) and road bridge (WMC 152) related to the Port Warren settlement at the base of Plane 9W along Route 519.
- The plane itself, in good condition, with associated tar pot and sleeper ruins.
- Below-grade foundation, wheel pit, penstock and turbine of the powerhouse in good condition with a pavilion roof covering.
- The tailrace tunnel and headwall in good condition.
- The plane tender’s house that has retained its overall form and is in good condition, but has been modified by the use of modern interior and exterior finishes and porch additions. It is being used as a residence. One room of the home is being used as a museum to display a variety of artifacts, maps, paintings, models and other memorabilia associated with the Morris Canal.
- Foundation ruins of the brakeman’s house.
- An outdoor display of archaeological artifacts associated with the canal.
- Historic marker from the American Society of Mechanical Engineers recognizing the reaction-type hydraulic turbine used at Plane 9W as a National Mechanical Engineering Landmark
- Small parking area and associated garage in good condition that are partially constructed over the inclined plane.
- Surrounding agricultural fields that have been preserved as farmland, which help maintain the historical setting of the site and provide a scenic view from the plane’s summit.
- A partially intact and overgrown section of the canal leading east from the plane through the preserved farm fields. Encroachments by the farmer leasing the fields and neighboring residences are impacting the remaining integrity of the canal through farm operations and the dumping of yard waste.

This site is the most significant resource along the Morris Canal in Warren County for several reasons. The inclined plane was a distinctive component of the canal’s construction, enabling the canal to overcome the highest change in elevation of any canal in the world. The good condition of the plane and plane tender’s house and the presence of related ruins offers the greatest potential for interpretation than any other plane site in the county. For this reason, the WCMCC offers tours of this site, including the wheel pit and tailrace tunnel.



Electrical wires slightly mar a beautiful view of a farmstead



Remains of Plane 9W

²³ The Morris Canal – A Photographic History by James Lee. Delaware Press. 1979.

Recommendations : *greenway segments*

A Master Plan²⁴ for Plane 9W has been developed to assist the county in “establishing and fostering its historical period of significance; establishing museum interpretation and programming’ establishing a means of museum artifact collection, storage and display based on an interpretive program; providing visitor access and circulation; providing visitor facilities; and tying the whole site” into the greenway (See Appendix E). The \$5.75 million project was envisioned to be completed in three phases over 10 years. Some aspects of the Master Plan have been implemented, such as the water and septic improvements, selective tree cutting, access driveway construction, and interpretive signage installation, but most recommendations remain to be completed.

Legend

 primary support of vision statement
 secondary support of vision statement

Recommendation ID

**Segment Three Strategies
Route 22 to Plane 9W**

Vision Statement
 To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for and involvement in canal preservation efforts.

3 a	Preserve adjacent farm and screen industrial uses and electric power lines for aesthetic purposes							
3 b	Construct parking area/trail head at Strykers Road							
3 c	Clear trail from Strykers Rd. to Route 519							
3 d	Address culvert stability and erosion issues in prism near Strykers Road							
3 e	Establish path around waste weir location to maintain trail continuity							
3 f	Develop strategy to restore/recreate waste weir as possible interpretive site							
3 g	Continue use of Stine House by NJ Youth Corps							
3 h	Complete a study to address erosion problems associated with proximity of canal to Lopatcong Creek							
3 i	Provide pedestrian crossing improvements at Route 519 and Plane 9W							
3 j	Implement historic preservation plan and master plan for Plane 9W							
3 k	Create sidewalk connection between Overlook at Lopatcong residential development and Plane 9W							

²⁴ Historic Site Master Plan, Morris Canal Inclined Plane 9 West, Greenwich Township, Warren County, New Jersey. The Office of Herbert J. Githens. November 22, 2002, Revised August 1, 2003.

Recommendations : *greenway segments*

Recommendation 3a - Preserve adjacent farm and screen industrial uses and electric power lines for aesthetic purposes

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

The large parcels of farmland north and south of the greenway, between Route 22 and Stryker's Road, provide a good buffer and transition from the commercial and industrial development along the highway, to the bucolic character of this portion of the trail. Measures should be taken to ensure that these properties continue to provide these important services well into the future. Additionally, supplemental landscape planting along the trail would help to screen the views of the industrial/commercial uses and high tension lines in the distance.

Recommendation(s):

- A. Work with land owners to preserve tracts of farmland adjacent to the greenway, whether through farmland preservation, conservation easement or some other mechanism
- B. Work with land owner to plant strategically located landscape buffers to screen unsightly views from the greenway.

Time Frame and Milestones:

- A. Contact landowner within 2 years and have established agreement within 5 years.
- B. Install landscape buffers within 5 years.

Costs:

Initial: Preservation/conservation agreement \$3,000 (\$50/hour x 60 hours)
Landscape Buffers planted with volunteer labor, \$3,000 each

Operational: Does Not Apply

Funding Sources:

- Green Acres
- Warren County

Benefits:

Preserved farmland maintains the rural feel of this portion of the greenway and provides a buffer between surrounding residential uses and the adjacent roadway.

Recommendations: *greenway segments*

Suggested Implementation Agencies:

- Green Acres
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 3b - Construct parking area/trail head at Strykers Road

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Until Route 22 can be successfully crossed by the greenway trail, Strykers Road is the first location suitable for a trailhead serving the trail as it moves east.

Recommendation(s):

- A. Design and construct a trailhead with limited facilities.

Time Frame and Milestones:

- A. Complete within 5 years

Costs:

Initial: \$15,000 to \$20,000 (assumes 10 spaces and limited improvements)

Operational: \$2,000 to \$3,000 yearly

Funding Sources:

- Rails-to-Trails grant programs
- New Jersey Recreational Trails
- Green Acres
- Warren County

Benefits:

Creation of trailhead facilities provide a safe location for greenway users, the ability to access these facilities, expanding user groups and allowing access to local businesses.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 3c - Clear trail from Strykers Rd. to Route 519

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Currently the towpath from Stryker's Road to Route 519 is in county ownership. Through most of the area, except for a few limited locations, the towpath is intact enough to be passable with the removal of existing vegetation. As part of the Transportation Enhancement grant, one tenth of a mile from Strykers Road has been improved as a walking trail. Clearing the rest of the towpath will provide a half mile of walking trail in total.

Recommendation(s):

- A. Clear existing vegetation from towpath from Stryker's Road to Route 519.

Time Frame and Milestones:

- A. Completed within 1 year.

Costs:

Initial: \$2,500 to \$5,000

Operational: \$1,000 to \$1,500 annually

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- Warren County

Benefits:

Provides connection from Strykers Road to Route 519 and Plane 9W

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- New Jersey Youth Corps
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 3d - Address culvert stability and erosion issues in prism near Strykers Road

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

Current drainage patterns associated with Strykers Road have created a condition where much of the water from this area is finding its way into the remaining canal prism to the east of this point. The water flowing through the canal is creating erosion runnels in the bottom of the canal. Moving east, the runnels become progressively deeper and more defined until the point at which the water can escape the prism at the location of the former waste weir. At this point, runoff from Strykers Road is joined by runoff from a storm culvert passing under Route 519 and has created a location of significant erosion.

To address these issues, runoff from the Strykers Road area should be diverted, prior to entering the canal prism. Once stormwater has been diverted, restoration of the prism should be completed. The area around the culvert should be stabilized with a combination of traditionally based armoring techniques and vegetative solutions. Potential permitting issues associated with diversion of runoff may increase project costs.

Recommendation(s):

- A. Divert runoff from Strykers Road and stabilize bottom of canal prism
- B. Stabilize area around culvert passing under Route 519

Time Frame and Milestones:

- A. Complete within 3 years
- B. Complete task B within 5 years

Recommendations : *greenway segments*

Costs:

Initial: \$15,000 to \$20,000

Operational: Does Not Apply

Funding Sources:

- North Jersey Resource Conservation and Development Council (NJ RC&DC)
- Green Acres
- New Jersey Historic Trust
- Warren County

Benefits:

Repair of these two minor issues now will avoid more additional damage to existing historic resources and potentially more costly future repairs.

Suggested Implementation Agencies:

- North Jersey Resource Conservation and Development Council
- Warren County Department of Engineering
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 3e - Establish path around waste weir location to maintain trail continuity

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The location of the historic waste weir along this point in the canal is currently suffering from severe erosion, caused by stormwater from Strykers Road and a culvert extending under Route 519. The remaining waste weir structures and eroded areas have created a condition where the towpath is interrupted by a deep erosion gully. Over time, the depth of this gully has extended to below

Recommendations : *greenway segments*

the bottom of the canal prism. The western side of this gully is very steep and unstable, made even worse by a large stone abutment remaining from the waste weir, while the eastern side of the gully is very steep and unstable. In conjunction with the completion of recommendation 3c, an alternate route should be constructed to allow users to safely drop down to the level of the floor of the canal, cross the gully and then climb back up to the level of the towpath.

Recommendation(s):

A. Design and construct a trail connection around the waste weir and adjacent eroded areas.

Time Frame and Milestones:

A. Complete in conjunction with recommendation 3c.

Costs:

Initial: \$5,000 to \$7,500

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Historic Trust
- New Jersey Recreational Trails
- North Jersey Resource Conservation and Development Council
- Warren County

Benefits:

Trail bypassing these obstacles creates trail linkages which are more easily passible by a wider number of trail users.

Suggested Implementation Agencies:

- New Jersey Youth Corps
- North Jersey Resource Conservation and Development Council
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 3f - Develop strategy to restore/recreate waste weir as possible interpretive site

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

While there were many waste weirs located along the length of the canal, the waste weir located along Route 519 is ideally located to be developed as an interpretive opportunity. Its close location to Plane 9W and potentially easy greenway-based access from this point make an excellent location.

A study should be conducted to assess the existing condition of the weir and its current value as an interpretive element. The study should evaluate the steps necessary to stabilize the weir and the strategies necessary for full restoration.

Recommendation(s):

A. Complete study to determine strategy for restoration/recreation of waste weir as a possible interpretive site.

Time Frame and Milestones:

A. Complete the study within 10 years.

Costs:

Initial: \$7,000 to \$10,000 cost of study. Cost of implementation based on findings of study.

Operational: Does Not Apply

Funding Sources:

- 1772 Foundation
- American Express
- National Trust for Historic Preservation
- New Jersey Historic Commission
- New Jersey Historic Trust
- Save America's Treasures

Recommendations : *greenway segments*

Benefits:

Restoration of this structure would provide an easily accessible location for the public to learn about a part of the canal not widely interpreted along its course.

Suggested Implementation Agencies:

- Warren County Planning Department
- Warren County Morris Canal Committee

Recommendation 3g - Continue use of Stine House by NJ Youth Corps

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation activities.

Project Description:

Members of the New Jersey Youth Corps of Phillipsburg have been gaining valuable life skills for some time while completing community service projects associated with canal preservation efforts. By using the Stine House as its headquarters as part of an existing lease agreement with Warren County, the Corps is strategically positioned to assist the WCMCC in maintaining the western end of the canal in the county.

Recommendation(s):

Work with the NJ Youth Corps to utilize the Stine House as a base of operations for its educational and occupational training programs in coordination with canal preservation projects.

- A. Conduct a baseline assessment of the property including an assessment of the building's condition in comparison to the interior space needs of the NJ Youth Corps.
 - Identify those building and grounds maintenance projects that should be completed to preserve the character of this 19th century structure and keep it in good condition.
 - Identify any building and grounds improvements that can be made to accommodate the space needs of the NJ Youth Corps without adversely impacting the character of the structure.
- B. Determine which building and grounds maintenance and improvement projects could be completed by the NJ Youth Corps as part of its educational and occupational training program.
- C. Identify any off-site canal preservation projects that could also be completed by the NJ Youth Corps to further enhance its training activities while helping the WCMCC protect and maintain the canal throughout the county.
- D. Assist the NJ Youth Corps in completing projects identified in Tasks B and C.

Recommendations : *greenway segments*

Time Frame and Milestones:

- A. Complete within 3 months.
- B-C. Complete within 3 months.
- D. Complete on an on-going basis.

Costs:

Initial: Tasks, B and C = \$5,000

Operational: \$2,500 annually (\$25/hour x 100 hours) + \$5,000 annual capital budget to coordinate and assist NJ Youth Corps in maintaining and improving the Stine House and grounds.

Funding Sources:

- Warren County

Benefits:

Potential reduction in long-term canal maintenance costs as a result of the volunteer contributions of the NJ Youth Corps. Potential improvement in educational and occupational abilities of youth involved in the Corps program. Improved capacity to maintain the canal for the public's enjoyment.

Suggested Implementation Agencies:

- NJ Youth Corps of Phillipsburg
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 3h - Complete a study to address erosion problems associated with proximity of canal to Lopatcong Creek

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

As the canal nears Route 519, the close proximity of the Lopatcong Creek to the canal has created significant erosion issues. The course of the creek is continually encroaching on the banks of the canal, having broken through in some locations. A study will be completed with the North Jersey Resource Conservation & Development (NJRC&D), with funds recieved from the New Jersey Historic Trust, to determine methods of stabilizing the interface between the canal and creek.

Recommendations : *greenway segments*

Recommendation(s):

- A. Complete a study to address erosion control problems
- B. Fund and complete stabilization

Time Frame and Milestones:

- A. Complete study within 1 years
- B. Begin stabilization project within grant cycle following completion of study

Costs:

Initial: Cost of stabilization dependent on results of the study.

Operational: Does Not Apply

Funding Sources:

- Green Acres
- National Trust for Historic Preservation
- New Jersey Historic Trust
- Save America's Treasures

Benefits:

Stabilization of erosion in the short term, will potentially eliminate costly reconstruction of the canal and towpath at a future date. In this area, the canal is located very close to Route 519. If enough of the canal and towpath continue to erode, a trail connection through here will be difficult. Preservation of this portion of the canal will allow trail-based connections to Strykers Road.

Suggested Implementation Agencies:

- North Jersey Resource Conservation and Development Council
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 3i - Provide pedestrian crossing improvements at Route 519 and Plane 9W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Recommendations : *greenway segments*

Project Description:

When completed, the greenway trail will cross Route 519 in the area around the existing access drive for Plane 9W. While this location has clear sight lines in either direction, the high rate of vehicle speed and volume along this stretch of roadway will make this a dangerous place to cross. The posted speed limit along this two-lane roadway drops to 30mph at this point, but quickly increases to 45mph within a quarter mile in either direction. Additionally, the potential for accidents will be increased due to the high visitor volumes to be expected as Plane 9W becomes more developed as an interpretive destination.

Improvements to the pedestrian crossing here will be critical to maintaining the safety of the trail users. At a minimum, crossings should be constructed in-line with standards for similar crossings as outlined by AASHTO and NJ DOT. Roadway signage and crosswalks should be provided, with additional measures as required by traffic volumes and roadway speed.

Recommendation(s):

A. Provide crossing improvements to enhance pedestrian safety at Route 519 crossing.

Time Frame and Milestones:

A. Minimum level of crossing improvements should be completed in conjunction with Recommendation 3c

Costs:

Initial: \$5,000 to \$25,000

Operational: Does Not Apply

Funding Sources:

- New Jersey Recreational Trails
- US FHWA Transportation Enhancements

Benefits:

Increases safety of crossing Route 519, connecting larger portions of the greenway with a safe route.

Suggested Implementation Agencies:

- Lopatcong Township
- New Jersey Department of Transportation
- Warren County Morris Canal Committe
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 3j - Implement historic preservation plan and master plan for Plane 9W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals;

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride;

...interconnects communities and connects points of interest by serving as a continuous greenway of open space across the county;

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience;

...stimulates the local economy through heritage tourism, and;

...increases public and private support for and involvement in canal preservation activities.

Project Description:

Plane 9W is the most significant feature of the Morris Canal within Warren County and has the greatest potential to support heritage tourism activities due to its close proximity to the major transportation corridors of Route 57, U.S. Route 22 and I-78. A master plan has been prepared outlining the archaeological, site utility, design, and construction work needed to improve this property for a high-level of public visitation. (See Appendix E for a summary of all work included in master plan). However, an estimate of the long-term costs of maintaining the proposed improvements was not included in the master plan and should be addressed prior to the start of any construction.

Recommendation(s):

Improve Plane 9W in accordance with the master plan.

- A. Determine the expenses associated with existing site maintenance and operations in accordance with Greenway Operations Project Strategies. Establish an endowment or other reserve fund to finance continuing maintenance and operations costs associated with existing site conditions in accordance with Greenway Operations Project Strategies, as identified in the master plan (A summary of Master Plan recommendations can be found in Appendix E).
- B. Develop estimates of additional site maintenance and operations costs associated with completing each phase of the master plan, setting aside endowment funds accordingly (preferably prior to

Recommendations: *greenway segments*

construction) in accordance with Greenway Operations Project Strategies. Determine the extent to which user fees can be charged to help offset long-term maintenance and operations costs in accordance with Greenway Operations and Economic Development/Funding Project Strategies.

- C. Complete each phase of the master plan and implement user fees as appropriate.
- D. Publicize the construction activity before, during and after construction is completed and the new improvements are open to the public.

Time Frame and Milestones:

- C. Complete Phase 1 within 1 to 3 years
Complete Phase 2 within 3 to 5 years
Complete Phase 3 within 5 to 10 years or more

Costs:

Initial: Phase 1 = \$600,000 to \$750,000
Phase 2 = \$1,800,000 to \$2,000,000
Phase 3 = \$2,600,000 to \$3,000,000

Operational: Maintenance and operations endowment to be established in coordination with Greenway Operations Project Strategies and potentially offset by user fees developed in accordance with Greenway Economic Development /Funding Project Strategies, as found in the master plan.

Funding Sources:

- 1772 Foundation
- American Express
- Hyde and Watson Foundation (if willing to extend geographical focus area to include all of Morris Canal)
- National Trust for Historic Preservation
- New Jersey Historic Trust
- Save America's Treasures
- Tourism Cares for Tomorrow
- US FHWA Transportation Enhancements

Benefits:

Potential revenue from heritage tourism. Indirect financial benefit to local businesses involved in this significant construction project. Access to the longest and highest inclined plane on the Morris Canal for recreational and educational purposes.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee

Recommendations : *greenway segments*

- Warren County Planning Department

Recommendation 3k - Create sidewalk connection between Overlook at Lopatcong residential development and Plane 9W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Overlook at Lopatcong residential development is located directly across the road from Plane 9W. This development could easily be linked to the greenway with the extension of existing sidewalks southwest along Route 519 to the proposed crossing at Plane 9W. Residents from this development don't currently have trail-based access to recreational facilities. While this connection will not immediately provide this access, as more portions of the greenway are completed these connections will also be completed.

Recommendation(s):

- A. Extend sidewalks from entrance of Overlook at Lopatcong residential development to connect with proposed Route 519 crossing improvements.

Time Frame and Milestones:

- A. Complete extension in 5 to 10 years

Costs:

Initial: \$15,000 to \$25,000

Operational: Does Not Apply

Funding Sources:

- Work with Overlook at Lopatcong Home Owners Association to cover construction costs.

Benefits:

Connections to greenway can be used as a marketing tool for sale of homes in Overlook Community and may increase property values. Connection has the ability to provide access to a portion of the community without current access to trail or recreational facilities.

Suggested Implementation Agencies:

- Lopatcong Township

Recommendations : *greenway segments*

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Recommendations : *greenway segments*

Segment 4: Plane 9 West to Bread Lock Park 3.2 miles



Segment four traverses Greenwich Township through predominantly suburban-style housing developments and rural farmland.



Route 57 in Greenwich Township



View of a possible route for the greenway through Greenwich Township near Plane 9 West.

The canal threads its way between a residential subdivision and preserved farmland before it is interrupted by North Main Street in Stewartsville. (See Recommendations Maps 3 and 4 in the Maps section of this report). The narrow, wooded right-of-way for the canal presents little separation between the canal and adjoining shallow residential backyards to the north and farm fields to the south. Views of the preserved farm fields from the canal are attractive, and a sidewalk along the west side of North Main Street provides pedestrian access to the adjacent subdivision and the historic district in downtown Stewartsville.

An older residential neighborhood along Warren Street, the Greenwich Township Emergency Squad and an active rail line have obscured the canal as it heads east from North Main Street. However, this neighborhood includes the former Hulshizer-Stone canal store (now private residences) with a deteriorating mule stable (now a garage) and the canal store-owner's house and barn along North Main Street (WMC 148, see Appendix H for WMC references). Although these buildings have been altered, they still contribute to the canal's historic district.

The railroad bridge (WMC 144) that once permitted passage of the canal was removed during the canal's abandonment and subsequently rebuilt, but deteriorated portions of the original abutments still remain. The existing railroad underpass is now used as a driveway entrance to a private residence. The nearest alternative locations for crossing the railroad are at-grade crossings at the intersection of Warren and Prospect Streets and along Richline Hill Road. Warren Street is narrow and possesses only a few small sections of sidewalk. There are no sidewalks along Richline Hill Road.

In a similar fashion, Plane 8W (WMC 142) is obscured north of the railroad within a narrow, wooded strip of land between two farm fields before being incorporated into part of existing residential and commercial properties along Route 57. The former Hulshizer-Stone Canal Store, three canal-worker houses and Schillinger Grist Mill located nearby have been renovated for modern residential and commercial uses.

The canal nears Route 57 as it makes a sweeping bend to the south and enters several large agricultural properties east of Richline Hill Road. The views of the Pohatcong Valley from these farm fields are some of the best along the canal in Warren County. However, farming operations have destroyed the canal within these fields, leaving little surface evidence. The

Recommendations : *greenway segments*

farm just west of Bread Lock Park is the site of a new solar panel development that will include easement provisions to preserve the former canal corridor and provide public access via a perimeter trail.

Bread Lock Park is a 28.8-acre county park that features several large farm fields and a lawn which surround a stretch of the canal prism. The park now has several interpretive elements including:

- A small canal museum.
- An entrance sign and a looped dirt driveway off of Route 57 with a small parking lot.
- Segments of the canal prism and towpath, parts of which have been filled in.
- Ruins of Lock 7W (WMC 135) and the associated lock tender's house. A full-sized replica of a canal boat and kiosks with interpretive signage have been constructed near the lock for educational purposes.
- Remnants of the canal basin along Route 57.
- Four barns and sheds historically associated with agricultural uses on the north side of Route 57. Three of these structures are in fair to good condition; one is in ruins.
- A former dwelling situated in the canal prism, now serving as the Warren County Historic Learning Center museum with a variety of exhibit, displays and publications about the history of the canal, railroads, trolleys, Oxford Furnace, and Native Americans. The museum, at Bread Lock Park, is open from 1 to 4 p.m. on the second Sunday of each month, excluding holidays. The building includes a meeting room, kitchen and unisex bathroom facilities.
- A former cabinet workshop, currently the headquarters for the Highlands Project, an organization that provides community service and educational activities for youth at the site each Saturday from 8 a.m. to noon.
- A nature trail with interpretive signage, benches and birdhouses at Bread Lock Park.
- Two historic markers, one along Route 57 indicating the crossing of the Morris Canal and another at Lock 7.
- An attractive view of the Pohatcong Valley from south side of the Warren County Historic Learning Center. This view may be impacted by the proposed installation of solar panels on a nearby farm.

Like Plane 9W, Bread Lock Park is an important interpretive center and another critical mass of archaeological resources accessible to the public. However, the building serving as the existing museum clearly detracts from the purpose of preserving the Morris Canal. A Historic Preservation Plan²⁴ outlines a six-phase, approximately \$3 million improvement program to conduct archaeological investigations; remove the existing dwelling; convert the cabinet shop to a visitor center and the Highlands Project headquarters; adaptively reuse the existing barns for a museum; restore the canal towpath and prism; and restore, conserve and rehabilitate the lock and basin as summarized in Appendix E.



The canal museum at Bread Lock Park

²⁴ Historic Site Master Plan, Morris Canal Inclined Plane 9 West, Greenwich Township, Warren County, New Jersey. The Office of Herbert J. Githens. November 22, 2002, Revised August 1, 2003.

Recommendations : *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Four Strategies Plane 9W to Bread Lock Park

- 4 a Work with Greenwich Township to engage Stewart's Hunt residents in canal preservation efforts
- 4 b Complete a study of alternative routes for trail connections from Plane 9W to North Main Street
- 4 c Establish trail from Plane 9W to North Main Street in Stewartsville based upon selected alternative and results of outreach efforts
- 4 d Complete a study of alternative routes for establishing an extended trail from North Main Street to Bread Lock Park using existing roadways and land adjacent to the existing railroad
- 4 e Establish trail from North Main Street to Bread Lock Park using selected alternative
- 4 f Encourage sidewalk connections between the canal and the Village of Stewartsville
- 4 g Continue Implementation of historic preservation plan for Bread Lock Park
- 4 h Coordinate preservation and trail development efforts with Warren Heritage Scenic Byway

Vision Statement
To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.	increases public and private support for and involvement in canal preservation efforts.
4 a							
4 b							
4 c							
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4 e							
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4 g							
4 h							

Recommendation 4a - Work with Greenwich Township to engage Stewart's Hunt residents in canal preservation efforts

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

Properties along the southern edge of Stewart's Hunt are either bounded by or have their backyards bisected by the canal. Many of the homes in these lots are also located very close to the bank of the canal. Due to this, the actions of individual home owners have the ability to greatly impact the future of the canal.

Recommendations : *greenway segments*

Outreach efforts by Warren County Planning Department, Warren County Morris Canal Committee and Greenwich Township officials to engage Stewart's Hunt residents would go a long way in healing some of the wounds created by past legal battles. These efforts should be focused on informing the residents about the importance of the canal as a historic resource and ways in which they can work to preserve this resource on their property. It should be made clear, that these efforts are solely focused on building partnerships for canal preservation and engaging local residents and are not intended as efforts to impose trail connections involuntarily through anyone's property.

Recommendation(s):

- A. Work with representative from Greenwich Township to hold Morris Canal workshops with the residents of Stewart's Hunt

Time Frame and Milestones:

- A. Hold first workshop within 2 years.

Costs:

Initial: Staff Time

Operational: Does Not Apply

Funding Sources:

Does Not Apply

Benefits:

Engagement will help provide education about preservation and manage sections of the canal in ways which are not detrimental to the canal and may foster voluntary trail connections.

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 4b - Complete a study of alternative routes for trail connections from Plane 9W to North Main Street

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Recommendations : *greenway segments*

Project Description:

Complete a study of alternate routes for providing a connection from Plane 9W through Stewart's Hunt to North Main Street. Study should primarily focus on one of three routes, but also other routes should be identified. The three routes are:

1. North through adjacent farm land, accessing Stewarts Hunt via farm land access way, then utilizing existing side walk network to connect with North Main Street.
2. Follow county access easement along the canal towpath to North Main Street.
3. Obtain access easement and follow south of the canal through agricultural land.

Feasibility, cost and land owner involvement should be considered for each of the potential routes.

Recommendation(s):

- A. Complete study of alternate trail routes

Time Frame and Milestones:

- A. Complete study and construct trail in 5 to 10 year time frame.

Costs:

Initial: \$10,000 to \$15,000 cost of study

Operational: Does Not Apply

Funding Sources:

- Green Acres
- Rails-to-Trails Grant Program
- Warren County

Benefits:

Working with homeowners and landowners during study process helps to create ownership in greenway and builds public support for project.

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 4c - Establish trail from Plane 9W to North Main Street in Stewartsville based upon selected alternative and results of outreach efforts

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

In partnership with the adjacent home owners and based on the findings of the study completed as part of Recommendation 4c construct trail connection from Plane 9W to North Main Street.

Recommendation(s):

A. Construct trail from Plane 9W to North Main Street.

Time Frame and Milestones:

A. Within 2 years after completion of Recommendation 4c

Costs:

Initial: \$10,000 to \$50,000 depending on selected route.

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Construction of trail provides access to future connections in Stewartsville.

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Planning Department
- Warren County Department of Land Preservation

Recommendations : *greenway segments*

Recommendation 4d - Complete a study of alternative routes for establishing an extended trail from North Main Street to Bread Lock Park using existing roadways and land adjacent to the existing railroad

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience, and;

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

Complete a study of alternate routes for providing a connection from North Main Street in Stewartsville to Bread Lock Park. Study should primarily focus on one of three routes, but also evaluate other routes should they be identified. The three routes are:

1. Extending up Warren Street to the Norfolk Southern Rail Line. Following the rail line, east then crossing under the rail line via overpass for private driveway. From here, working closely with land owners to attain access rights along the canal to Bread Lock Park.
2. Extending up Warren Street to the Norfolk Southern Rail Line. Following the rail line, east. Crossing from the south side of the rail right-of-way to the north at Richline Hill Road and again following the tracks to the east to the proposed Effi Solar project. From here joining the proposed access easements associated with Effi Solar to Bread Lock Park.
3. From North Main Street, working with land owners to attain access rights across large agricultural parcel to Richline Hill Road. At Richline Hill Road, cross under Norfolk Southern right-of-way and follow tracks to the east to the proposed Effi Solar project, and from here join the proposed access easements associated with Effi Solar to Bread Lock Park.

Feasibility, cost and land owner involvement should be considered for each of the potential routes.

Recommendation(s):

- A. Complete study of alternate trail routes from North Main Street to Bread Lock Park.

Time Frame and Milestones:

- A. Complete study in a 3 to 5 year time frame.

Costs:

Initial: \$5,000 to \$8,000 cost of study

Operational: Does not apply

Recommendations : *greenway segments*

Funding Sources:

- Warren County

Benefits:

Working with landowners during study process helps to create ownership in greenway and builds public support for project.

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 4e - Establish trail from North Main Street to Bread Lock Park using selected alternative

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience, and;

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

In partnership with adjacent land owners, Norfolk Southern Rail Lines and based on the findings of the study completed as part of Recommendation 4d construct trail connection from North Main Street to Bread Lock Park.

Recommendation(s):

- A. Construct trail from North Main Street to Plane 9W.

Time Frame and Milestones:

- A. Within 2 years after completion of Recommendation 4e

Costs:

Initial: \$35,000 to \$60,000 depending on route.

Recommendations: *greenway segments*

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Construction of trail provides access recreation facilities at Bread Lock Park

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Department of Land Preservation
- Warren County Planning Department

Recommendation 4f - Encourage sidewalk connections between the canal and the Village of Stewartville

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

..provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Currently sidewalks in Stewartville extend a significant distance toward the route of the greenway along North Main Street. However, they do not extend far enough to make the connection. Depending on which route the greenway takes through this area, the sidewalks fall between 700 feet and 1,100 feet short of making the connection. There is adequate room along the shoulder for provision of sidewalks and even a worn foot path in some locations.

Recommendation(s):

- A. Extend sidewalks along west side of North Main Street from the point at which they terminate outside of Stewartville north, connecting to the greenway.

Time Frame and Milestones:

Recommendations : *greenway segments*

A. Complete connections within 4 to 6 years

Costs:

Initial: \$30,000 to \$40,000 for extension of sidewalks

Operational: Does Not Apply

Funding Sources:

- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Provides greenway connections to service and business locations in Stewartsville. Provides access to the greenway for residents of Stewartsville. Also provides link from greenway to Stewartsville Village Historic District.

Suggested Implementation Agencies:

- Greenwich Township
- Warren County Department of Engineering
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 4g - Continue Implementation of historic preservation plan for Bread Lock Park

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals;

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride;

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the country;

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience;

...stimulates the local economy through heritage tourism; and

Recommendations : *greenway segments*

...increases public and private support for and involvement in canal preservation activities.

Project Description:

Bread Lock Park contains a collection of structural features that can be used to interpret the operations of a canal lock and its relationship to the surrounding agricultural landscape. A master plan has been prepared outlining the archaeological, site utility, design and construction work needed to stabilize, adaptively reuse, relocate existing structures improve this property for a high-level of public visitation. (See Appendix E for a summary of all work included in master plan). However, an estimate of the long-term costs of maintaining the proposed improvements was not included in the master plan and should be addressed prior to the start of any construction.

Recommendation(s):

Improve Bread Lock Park in accordance with the master plan.

- A. Determine the expenses associated with existing site maintenance and operations in accordance with Greenway Operations Project Strategies (See pg.341 of Greenway-wide Recommendations). Establish an endowment or other reserve fund to finance continuing maintenance and operations costs associated with existing site conditions in accordance with Greenway Operations Project Strategies. (A summary of Master Plan recommendations for Bread Lock Park can be found in Appendix E of this report.)
- B. Develop estimates of additional site maintenance and operations costs associated with completing each phase of the master plan, setting aside endowment funds accordingly (preferably prior to construction) in accordance with Greenway Operations Project Strategies. Determine the extent to which user fees can be charged to help offset long-term maintenance and operations costs in accordance with Greenway Operations Project Strategies and Economic Development/Funding Strategies.
- C. Complete each phase of the master plan and implement user fees as appropriate.
- D. Publicize the construction activity before, during and after construction is completed and the new improvements are open to the public.

Time Frame and Milestones:

- A-D. Complete Phase 1 within 1 to 4 years
- Complete Phase 2 within 5 to 8 years
- Complete Phase 3 within 9 to 12 years
- Complete Phase 4 within 13 to 16 years
- Complete Phase 5 within 17 to 20 years
- Complete Phase 6 within 21 to 25 years

Costs:

- Initial:* Phase 1 = \$200,000 to \$250,000
- Phase 2 = \$425,000 to \$475,000
- Phase 3 = \$375,000 to \$425,000
- Phase 4 = \$900,000 to \$950,000
- Phase 5 = \$400,000 to \$450,000
- Phase 6 = \$400,000 to \$450,000

Recommendations : *greenway segments*

Note: The master plan does NOT include costs for land acquisition, museum artifact acquisition or reproductions, exhibits and other museum development costs outside the building fabric.

Operational: Maintenance and operations endowment to be established in coordination with Greenway Operations Project Strategies and potentially offset by user fees developed in accordance with Greenway Economic Development and Funding Project Recommendations (See pg. 312 of Greenway-Wide Recommendations).

Funding Sources:

- 1772 Foundation
- American Express
- Hyde and Watson Foundation (if willing to extend geographical focus area to include all of Morris Canal)
- National Scenic Byway Program
- National Trust for Historic Preservation
- New Jersey Historic Trust
- Save America's Treasures
- Tourism Cares for Tomorrow
- US FHWA Transportation Enhancements

Benefits:

Potential revenue to local businesses from heritage tourism. Indirect financial benefit to local contractors involved in construction project. Access to a collection of canal structures that can be used to interpret the operation of a lock in coordination and comparison with interpretive activities at Plane 9W.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 4h - Coordinate preservation and trail development efforts with Warren Heritage Scenic Byway

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

Recommendations: *greenway segments*

The Morris Canal closely parallels the Warren Heritage Scenic Byway (Route 57) for a significant length of this segment. As a result, the canal falls within the scenic corridor of the byway and is considered an intrinsic historic resource for this roadway. The National Scenic Byway Program provides funds for the conservation of the intrinsic resources of a designated byway and for the establishment of multi-modal transportation facilities. Therefore, the program could provide valuable funds for the preservation of lands through which the canal passes and the development of either the canal towpath or a portion of the road right-of-way as a recreational trail. Of particular importance is the preservation of the most attractive expansive views looking south from the byway of the canal winding its way through farm fields and across the Musconetcong Valley, with a mountain range in the background. Collaboration with local byway stakeholders is not only necessary to coordinate conservation and trail development activities but also to insure that these efforts generate the desired economic development from any associated heritage tourism visitation.

Recommendation(s):

Work with byway stakeholders to evaluate the feasibility of preserving canal lands and developing a recreational trail along the Warren Heritage Scenic Byway with funding assistance from the National Scenic Byway Program. Also coordinate educational and recreational programs to promote heritage tourism.

- A. Invite the New Jersey Scenic Byway Coordinator to tour this segment and discuss the goals of the 25-Year Action Plan in relationship to the Corridor Management Plan recommendations of the Warren Heritage Scenic Byway.
- B. Based upon the results of Task A, host a meeting of byway municipal representatives and other local stakeholders to discuss the preferred conservation actions and trail development route in anticipation of submitting an application for funding to the National Scenic Byway Program. Obtain letters of support from the local stakeholders (and funding support if possible) for use in submitting the grant application.
- C. If the grant application is successful, complete land preservation and/or trail development projects in accordance with the 25-Year Action Plan strategies for that project. Publicize the projects before, during and after the projects are completed, recognizing any byway stakeholder contributions.
- D. Maintain continuing communication with byway stakeholders to maximize the heritage tourism benefits of coordinating the promotion of educational and recreational activities along the byway and canal.

Time Frame and Milestones:

- A. Complete within 1 month.
- B. Complete within 6 month and submit application in accordance with grant funding requirements and submission deadline.
- C. Complete as per Segment and Greenway Project Strategies.
- D. Complete in conjunction with Greenway Economic/Funding Project Strategy recommendation D3

Costs:

Recommendations : *greenway segments*

Initial: \$4,000 to complete Tasks A and B (\$50/hour x 80 hours) + \$4,000 to administer each grant received and publicize each project (\$50/hour x 80 hours).

Operational: \$2,000 annually for Task D.

Funding Sources:

- National Scenic Byway Program
- Warren County

Benefits:

Broader financial support for canal preservation efforts. Potential revenue from the coordination of heritage tourism opportunities. Preservation of land to protect canal resources and associated cultural landscape (especially scenic views). Continuation of a recreational trail through the greenway to promote physical fitness and provide an alternative transportation corridor.

Suggested Implementation Agencies:

- Local scenic byway stakeholders
- New Jersey Department of Transportation Scenic Byway Coordinator
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Segment 5: Bread Lock Park to Meadow Breeze Park - 6.0 miles



This section of the greenway is predominantly rural as the canal veers from the major transportation corridor of Route 57. (See Recommendations Maps 4-7 in the Maps section of this report). Hugging the base of forested Scotts Mountain, the canal crosses large agricultural tracts, a few of which have been preserved as farmland, to the north of New Village and Broadway. The majority of the properties traversed by the canal in this segment are privately owned with the exception of a strip of land just east of Montana Road and a farm just east of Millbrook Road, both of which have been preserved by Warren County.

(The WMC references the features identified in the "Historic Preservation Survey of the Morris Canal in Warren County, NJ. The index is found in Appendix H)

Significant Features of Segment Five

- Lack of a safe pedestrian or bicycle path across Route 57, a very heavily traveled road
- Proximity of the canal to the Merrill Creek Reservoir Environmental Preserve and its recreational and educational opportunities including these:
 - Boating in the 650-acre man-made reservoir
 - Fishing along 5 miles of shoreline
 - Hiking along 11 miles of nature trails
 - Bird-watching, especially eagles, hawks and owls
 - Hunting on a limited basis
 - Environmental education programs for children and adults and paid internships for college students
 - Educational displays, exhibits and demonstration areas at the visitor center
 - Two classrooms, 100-seat auditorium, restrooms and parking facilities
- Lack of mid-block minor road crossings at Montana, Whites, Millbrook, Halfway House, Little Philadelphia Roads and Kayharts Lane.



Sign at Port Washington

Recommendations : *greenway segments*

- Existing sidewalks along Route 57 at its intersection with Millbrook Road in the village of Broadway.
- Potential conflicts with adjacent private properties where driveways and structures are in close proximity to the canal.
- Scenic views looking south of the adjacent farm fields.
- Historic significance and integrity of the former Warne Gristmill complex (WMC 127) on a farm to the north of Route 57 between Whites and Millbrook roads.
- Remnants of the Millbrook Aqueduct (WMC 126) on the farm north of Route 57.
- Existing sidewalks along a significant length of the west side of Little Philadelphia Road adjacent to a residential development in combination with the proximity of the canal to the Warren County Community College, Warren County Vocational Technical School and Public Library.

The strength of this greenway segment is the potential for connecting Bread Lock Park with major open spaces and activities at the Merrill Creek Reservoir and Meadow Breeze Park, both of which could potentially serve



Crosswalks and sidewalks at the Eastern end of Bowerstown Road.



Brass Castle Canal Store

Recommendations : greenway segments

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Five Strategies Bread Lock Park to Meadow Breeze Park

- 5 a Preserve canal property and/or pursue access rights between Route 57 and Little Philadelphia Road in accordance with Canal Properties Inventory
- 5 b Establish trail and greenway linkages and programmatic connections between the canal and Merrill Creek Reservoir
- 5 c Preserve farm at northwest corner of Millbrook Road and Route 57 intersection for historic and aesthetic purposes
- 5 d Encourage future sidewalk connections between the canal and the Village of Broadway
- 5 e Resolve existing drainage problem in Broadway on Whites Road
- 5 f Encourage sidewalk connections between the canal, the Warren County Community College and the Warren County Vo-Tech School/Library following Little Philadelphia Road and Route 57
- 5 g Coordinate preservation and trail development efforts with Warren Heritage Scenic Byway

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.	increases public and private support for and involvement in canal preservation efforts.
5 a							
5 b							
5 c							
5 d							
5 e							
5 f							
5 g							

Recommendation 5a - Preserve canal property and/or pursue access rights between Route 57 and Little Philadelphia Road in accordance with Canal Properties Inventory

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county; and

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Continue efforts to work with land owners in this segment to preserve properties and attain access rights to provide connections from Route 57 to Little Philadelphia Road. As properties and rights become available, reassess greenway routing based on potential connections.

Recommendations : *greenway segments*

Recommendation(s):

A. Continue efforts working with land owners on canal preservation and attaining access rights.

Time Frame and Milestones:

A. Efforts are on-going, although priorities should be reassessed every five years.

Costs:

Initial: Cannot be determined at this time

Operational: Cannot be determined at this time

Funding Sources:

- Green Acres
- Warren County

Benefits:

Additional land preservation and access rights contribute to additional connections and completion of portions of the greenway.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 5b - Establish trail and greenway linkages and programmatic connections between the canal and Merrill Creek Reservoir

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Heading north on Montana Road, the route of the canal passes within a half mile of the edge of the Merrill Creek Reservoir. Merrill Creek represents a significant recreational resource

Recommendations : *greenway segments*

within close proximity to the greenway. Connection to the reservoir may be possible along the shoulder of Montana Road or through the adjacent properties. Utilizing the shoulder of Montana Road is the easiest from an acquisition standpoint, but poses significant challenges based on the width of the roadway and limited sight distances. An alternate route through private property would likely be a better option, but will require significant coordination with local land owners.

Recommendation(s):

- A. Pursue access rights or expand Montana Road shoulder to accommodate connection to Merrill Creek Reservoir.

Time Frame and Milestones:

- A. 10 to 15 years or when significant greenway connections have been made to utilize trail to access a Merrill Creek as a destination.

Costs:

Initial: Extremely variable depending on final route selected. Cannot accurately be determined at this time.

Operational: Cannot be determined at this time.

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Combining and connecting recreational opportunities of the greenway and reservoir make both more of a regional destination, attracting eco-tourism dollars from a wider range. Connections to Merrill Creek Reservoir greatly increase the amount and diversity of the greenways recreational opportunities. They have the potential to provide more access to amenities of the reservoir and expand user groups by attracting reservoir patrons.

Suggested Implementation Agencies:

- Franklin Township
- Merrill Creek Owners Group
- Warren County Board of Recreation
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 5c - Preserve farm at northwest corner of Millbrook Road and Route 57 intersection for historic and aesthetic purposes

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

In addition to the open fields worthy of preservation, this farm includes the historic Warne Mill, two historic residences and a large barn with associated outbuildings.

Recommendation(s):

- A. Offer property owner assistance in applying for agricultural preservation funding.
- B. Determine property owner's desire to place architectural preservation easement on the key buildings

Time Frame and Milestones:

A-B. Complete application to funders within one year

Costs:

Initial: \$5000 (professional fee of 100 hours @ \$50 per hour)

Operational: Cost of purchase of conservation easement to be determined by appraisal

Funding Sources:

- New Jersey Department of Agriculture Farmland Preservation
- Warren County

Benefits:

New Jersey's farmland preservation program is the foundation for a strong agricultural industry. Farmland preservation clearly is an important investment in the state's economy. New Jersey's farmlands are not just the foundation for the agricultural industry but a way of life for generations of farm families. Scenic landscapes of green, productive fields are an important part of what makes New Jersey a desirable place to live and work. The preservation of key rural historic resources help instill an appreciation of the past.

Suggested Implementation Agencies:

- Local land trusts
- New Jersey Department of Agriculture Farmland Preservation
- Warren County Department of Land Preservation

Recommendations : *greenway segments*

Recommendation 5d - Encourage future sidewalk connections between the canal and the Village of Broadway

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Currently sidewalks in the Village of Broadway are limited to Main Street (Route 57) and a small portion of Asbury Broadway Road. However, much of the village is accessible via limited sidewalks. Of note are the connections created between the greenway and the Broadway Post Office as well as the Franklin Township Youth Association facility. Extension of sidewalks for approximately 2,000 feet along the western side of Millbrook Road would provide a sidewalk based connection between the village and greenway. An additional 1,000 foot extension south of Main Street would provide a connection to Franklin Township Elementary School.

Recommendation(s):

A. Extend sidewalks along west side of Millbrook Avenue from canal to Main Street in Broadway.

Time Frame and Milestones:

A. Complete connections within 8 to 12 years

Costs:

Initial: \$55,000 to \$75,000

Operational: Does Not Apply

Funding Sources:

- Franklin Township
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Provides greenway connections to residents of Broadway. Provides access to the greenway for residents of Broadway, Franklin Township Elementary School.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Franklin Township
- Warren County Department Engineering
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 5e - Resolve existing drainage problem in Broadway on Whites Road

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Project Description:

Existing drainage patterns along the western edge of Whites Road are causing erosion issues within the canal prism and along the edge of the roadway.

Recommendation(s):

- A. Review existing drainage patterns and develop solutions to reroute runoff and stabilize eroded areas.

Time Frame and Milestones:

- A. 3 to 5 years

Costs:

Initial: \$12,000 to \$17,000

Operational: Does Not Apply

Funding Sources:

- Natural Resource and Conservation Service
- New Jersey Historic Trust
- Warren County

Benefits:

Remediation of erosion issues preserves canal for future generations.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Franklin Township
- North Jersey Resource Conservation and Development Council
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 5f - Encourage sidewalk connections between the canal, the Warren County Community College and the Warren County Vo-Tech School/Library following Little Philadelphia Road and Route 57

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Warren County Community College and Warren County Vo-Tech School/Library are located a short distance down Little Philadelphia Road and across Route 57 from the point at which the greenway crossed Little Philadelphia Road. Sidewalks exist from the canal southeast along Little Philadelphia Road, adjacent to the residential development, for approximately 1,400 feet. Approximately 2,000 linear feet of new sidewalk would be required to connect the existing sidewalk to Route 57. New sidewalks may be easier to locate along the opposite side of the road, along the edge of the large agricultural fields, but this would require improvements to cross Little Philadelphia Road and the last 400 feet of side walk would still need to be located along the frontage associated with single-family residences.

Final connection to the schools and related facilities would also require an improved pedestrian crossing at Route 57. The sight distances at this location are very poor and the speed of travel is high. Adequate measures should be taken per AASHTO standards to ensure crossing is designed safely. This will likely require a flashing yellow light at a minimum, but may also warrant a stop light depending on traffic and projected pedestrian volumes.

Once across Route 57, final connections could be easily made via school and county property.

Recommendation(s):

- A. Construct sidewalk connections and crossing improvements required to connect greenway to Warren County Community College and Warren County Vo-Tech School/Library.

Time Frame and Milestones:

- A. Design and construct connections in 8 to 12 years.

Recommendations : *greenway segments*

Costs:

Initial: \$55,000 to \$75,000

Operational: Does Not Apply

Funding Sources:

- New Jersey Recreation Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Links community to educational resources via greenway. With the completion of other small greenway connections, has the ability to connect the schools to Meadow Breeze Park.

Suggested Implementation Agencies:

- Warren County Department of Education
- Warren County Department of Engineering
- Warren County Department of Land Preservation
- Warren County Planning Department
- Warren County Road Department
- Warren County Technical School

Recommendations : *greenway segments*

Segment 6: Meadow Breeze Park to Washington Borough/ Township Line - 1.9 miles



The greenway returns to a suburban and urban setting as it enters Meadow Breeze Park and extends eastward into Washington Borough. (See Recommendations Maps 7 and 8 in the Maps section of this report). A kiosk with interpretive signage accompanies an easily accessible and relatively intact section of the canal between Kayharts and Meadow Breeze Lanes through this major public recreational area. The park includes dramatic views of the mountains and various recreational amenities. (The WMC references the features identified in the “Historic

Preservation Survey of the Morris Canal in Warren County, NJ.” The index is found in Appendix H).

Park Amenities

- Athletic fields for soccer, baseball, softball and lacrosse in addition to volleyball, tennis, horseshoe, and basketball courts
- Playground and picnic pavilions
- Paved network of walking trails
- Restroom and parking facilities
- Special events such as runs and bike races

East of Meadow Breeze Lane, the route of the canal passes Brass Castle Elementary School, where there are existing trails and athletic fields. It then returns to private property through the township and into the borough, weaving its way around developed residential, industrial and commercial land uses. This segment of the greenway includes many key items of interest.

Significant Features of Segment Six

- Remnants of the Brass Castle Aqueduct (WMC 109).
- Proximity of the canal to the Brass Castle Elementary School.
- Site of the Brass Castle Canal Store and Basin (WMC 106), formerly the home of the Washington Grange #117 and currently used as a residence near the intersection of Brass Castle and Bowerstown roads.
- Lack of a mid-block crossing on Brass Castle Road in the immediate vicinity of the canal



Warren County Board of Education building within Bowerstown Historic District

Recommendations : *greenway segments*

- An existing crosswalk at the intersection of Brass Castle Road and Castle Street and a network of sidewalks connecting Castle Street with Dale Avenue and along Bowerstown Road to Foundry Lane.
- Proximity of the canal to the Bowerstown Historic District, where a former iron foundry built in the 1830s used iron from Oxford Furnace and coal supplied by the Morris Canal to make hardware, plows, pots and pans. The foundry was subsequently used as a testing laboratory for Consumers' Research, the precursor to today's Consumer Reports, and is now used by the Warren Hills Regional School District for its administrative offices. Interpretive signage associated with the foundry features information about Mary Catherine Phillips and her role as consumer advocate, author, editor and manager at Consumers' Research.
- Pohatcong Creek Aqueduct (WMC 102) along Plane Hill Road. This stone structure is in good condition but is not easily accessible, making it difficult to appreciate its architecture.
- Archaeological remnants of Plane 7W (WMC 100) and the Van Doren Gristmill (WMC 101) along Plane Hill Road. The plane has been nearly obliterated by this roadway, although ruins of the tailrace, bypass channel, wheelhouse foundation still exist. The adjacent plane tender's house or brakeman's house is in good condition and is currently being used as a private residence.
- Narrowness of Plane Hill Road and of Bowerstown Road to the east of Foundry Road and the lack of sidewalks in this area
- Lack of a pedestrian or bicycle crossing and associated sidewalks at the intersection of Plane Hill Road and Kinnaman Avenue. The nearest sidewalk is located at North Prospect Street.
- Proximity of the canal to the Pohatcong Creek corridor and associated riparian vegetation from Kinnaman Avenue to Plane Hill Road.
- Adverse physical and visual impact of industrial uses on the integrity of the canal from Kinnaman Avenue to Route 31. Major power lines parallel the canal between Kinnaman and Belvidere avenues at the archaeological site of a canal boat construction and repair facility (WMC 98). The canal has been obliterated by industrial uses to the east of Belvidere Avenue.

The integrity of the canal has been adversely affected by road construction, industrial development and suburbanization in this segment of the greenway, prompting careful consideration of alternative routes that could capitalize on the economic development potential of linking canal activities with the downtown business district in Washington Borough. The close relationship of the canal to Meadow Breeze Park, the Brass Castle Elementary School and the Warren Hills Middle School in the midst of a densely populated area suggests that local residents would probably use a towpath trail to access these sites.



View of the canal prism from Little Philadelphia Rd.

Recommendations : *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Six Strategies Meadow Breeze Park to Washington Borough

- 6 a** Complete an evaluation of alternate greenway and trail routes from Meadow Breeze Park to the Campbell House and implement study recommendations
- 6 b** Make trail and programmatic connections with Meadow Breeze Park and Brass Castle Elementary School
- 6 c** Make programmatic connection to Bowerstown Historic District
- 6 d** Encourage preservation and interpretation of Plane 7 (currently in private ownership)
- 6 e** Improve pedestrian crossing at Plane Hill Road and Kinnaman Ave

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.	increases public and private support for and involvement in canal preservation efforts.
6 a							
6 b							
6 c							
6 d							
6 e							

Recommendation 6a - Complete an evaluation of alternate greenway and trail routes from Meadow Breeze Park to the Campbell House and implement study recommendations

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... highlights its distinctive characteristics and the ingenuity in its construction to distinguish it from other historic resources and canals;

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county; and

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Complete an evaluation of alternate routes for providing a connection from Meadow Breeze Park to the Campbell House in Washington Borough. Study should primarily focus on two possible routes, but also other routes should be identified. The routes are:

Recommendations : *greenway segments*

1. From Meadow Breeze Park, following the path of the canal to Brass Castle Road. Improvements for the crossing would be needed here. The path would then follow Bowerstown Road, picking up existing sidewalks at Dale Road, and continuing west along Bowerstown. The sidewalks end just past Foundry Lane. The trail would then use the right-of-way along Bowerstown Road to Plane Hill Road. The route would then follow Plane Hill Road to the east, preferably in the wooded area to the north of the road. The trail would follow Plane Hill to Kinnaman Avenue. Crossing improvements would be required here, prior to entering the JCP&L property across the street. Following the edge of this property and the route of the canal, the trail would shortly come to North Lincoln Ave, location of the Campbell House.
2. From Meadow Breeze Park, utilizing the northern edge of the Brass Castle Elementary Property to reach Midland Road. Follow Midland, turning right on Castle Street, where sidewalks exist. The trail follows Castle Street, crossing Brass Castle Road at the location of an improved intersection. Past Brass Castle Road, Castle Street terminates at Dale Avenue. From this point sidewalks continue north on Dale, joining option A at Bowerstown Road or by utilizing a tax map paper street can continue on to adjacent agricultural and wooded areas. Once on the large agricultural and wooded parcels, the trail would follow the stream corridor to Plane Hill Road, providing excellent views of the aqueduct under the road. From here, the trail would need to climb up to the elevation of Plane Hill Road, joining option A to the end.

Neither of these routes is totally exclusive of the other, and portions of each may be combined in different ways pending land owner cooperation and other conditions. Completion of either would require close collaboration with properties owners along the proposed routes.

Recommendation(s):

- A. Complete evaluation of alternate trail routes and construct trail based on the findings of the study.

Time Frame and Milestones:

- A. Complete study within 5 to 10 years and complete trail construction within 3 years of completion of study.

Costs:

Initial: \$5,000 to \$7,000 for completion of study. Cost of construction cannot be determined at this time.

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Recommendations : *greenway segments*

Benefits:

Completion of this section of greenway is critical to providing access from the west to Washington Borough, allowing access for trail users to downtown businesses. This portion of greenway provides trail based connections for many Washington Township residents to the Borough. It also provides similar connections for a large portion of the immediate population to Meadow Breeze Park, and to Washington Borough Businesses.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department
- Washington Township
- Washington Borough

Recommendation 6b - Make trail and programmatic connections with Meadow Breeze Park and Brass Castle Elementary School

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride; and

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience.

Project Description:

Meadow Breeze Park contains a segment of the Morris Canal in very good condition and contains some interpretive signage. However, the towpath is not an integrated part of the park's internal recreational trail system. Although, the elementary school abuts Meadow Breeze Park, there are no formal connections to the park's internal trail system either. Such physical connections would support the development of interpretive activities by the elementary school and the township's recreation program.

Recommendation(s):

Interconnect the park's trail system with the towpath and elementary school and utilize these linkages to access the canal for school and public educational activities.

Recommendations : *greenway segments*

- A. Meet with representatives of Washington Township and Brass Castle Elementary School to discuss alternatives for making the proposed interconnections.
- B. Assist the township and school district in seeking funding to design and construct the proposed linkages.
- C. Encourage the school district and township recreation staff to provide hands-on learning activities in keeping with the Greenway-Wide School and Public Education Project Strategies.

Time Frame and Milestones:

- A-B. Complete within 6 months.
- C. Complete in 1 year, then on an on-going basis.

Costs:

Initial: \$1,500 (\$50/hour x 20 hours + \$25/hour x 20 hours) + possible contribution from Warren County

Operational: Funding for Task C provided as part of Greenway-Wide School and Public Education Project Strategies

Funding Sources:

- Brass Castle Elementary School
- Green Acres Program
- Warren County
- Washington Township

Benefits:

Potential revenue from heritage tourism activities. Enhanced education of elementary school students and park visitors through interpretive and recreational use of towpath trail.

Suggested Implementation Agencies:

- Brass Castle Elementary School
- Warren County Morris Canal Committee
- Warren County Planning Department
- Washington Township

Recommendations : *greenway segments*

Recommendation 6c - Make programmatic connections to Bowerstown Historic District

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride; and

...stimulates the local economy through heritage tourism.

Project Description:

The hamlet of Bowerstown is worthy of visitation and interpretation in light of its relationship to both Early American and modern-day events, especially the former use of the its historic structures as the Vanatta iron foundry and as the laboratory testing headquarters of Consumer's Research (the precursor to Consumer Reports). However, only limited interpretive signage marks the site.

Recommendation(s):

Work with Warren Hills Regional School District to improve interpretive opportunities at the Bowerstown Historic District.

- A. Meet with school district representatives to discuss ways in which to better interpret the history of this hamlet. Determine to what extent the district would allow public access to the historic foundry complex for educational purposes.
- B. If interior building access can be provided, work with the school district, Warren County Cultural and Heritage Commission, Washington Township Historic Preservation Commission and Consumers Reports to assess the feasibility of using interior space to interpret the foundry's iron making and laboratory testing history to support regular public visitation.

Time Frame and Milestones:

- A. Complete within 1 month.
- B. Complete within 2 years.

Costs:

Initial: Use existing staff and funding resources for Task A.
\$30,000 budget to complete a feasibility study.

Recommendations : *greenway segments*

Operational: Not applicable.

Funding Sources:

- Consumers Reports
- National Trust for Historic Preservation
- New Jersey Historic Commission
- Warren County
- Warren Hills Regional School District

Benefits:

Potential local business revenue from heritage tourism activities. Additional educational opportunities through improve interpretation of the historic district.

Suggested Implementation Agencies:

- Warren County Cultural and Heritage Commission
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren Hills Regional School District
- Washington Township Historic Preservation Commission

Recommendation 6d - Encourage preservation and interpretation of Plane 7 (currently in private ownership)

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

Preserving and interpreting the inclined planes of the Morris Canal is a key element in preserving its story.

Recommendation(s):

- A. Determine owner interest in preservation and prepare a detailed evaluation of the integrity of the resources

Time Frame and Milestones:

Recommendations : *greenway segments*

A. Complete discussions with the property owner within 1 year. Seek funding for archaeological/historical inventory.

Costs:

Initial: \$2,500 (\$50/hour x 40 hours + \$25/hour x 20 hours)

Operational: To be determined after initial phase

Funding Sources:

- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust

Benefits:

Historic preservation project creates jobs, increases property values, conserves resources, supports small businesses, attracts investment, and attracts visitors. The educational benefits to the public include helping to tell the story of the Morris Canal.

Suggested Implementation Agencies:

- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust
- Preservation consultants
- College/University Historic Preservation and/or Archaeological programs

Recommendations 6e - Improve pedestrian crossing at Plane Hill Road and Kinnaman Ave

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

When completed, the greenway trail will cross Kinnaman Avenue at Plane Hill Road to access the proposed trail route through the JCP&L property. Kinnaman Road slopes slightly down hill in either direction from its intersection with Plane Hill Road, limiting sight distances. Speeds of automobiles traveling along Kinnaman Road increase the potential for accidents in this area. As trail connections are completed, this crossing will likely be heavily used by people accessing Washington Borough or Meadow Breeze Park from the greenway.

Improvements to the pedestrian crossing here will be critical to maintaining the safety of the trail users. At a minimum, crossings should be constructed in line with standards for similar crossings

Recommendations : *greenway segments*

as outlined by AASHTO and NJ DOT. It is likely the vehicular volumes and rate of travel along Kinnaman will support installation of a flashing yellow light with additional roadway signage and crosswalks. Additional measures should be installed as warranted by traffic volumes and conditions.

Recommendation(s):

- A. Provide pedestrian crossing improvements on Kinnaman Avenue, at the intersection of Plane Hill Road, to enhance pedestrian safety.

Time Frame and Milestones:

- A. Improvements should be completed in conjunction with connections from Meadow Breeze Park to Washington Borough.

Costs:

Initial: \$5,000 to \$25,000

Operational: Does Not Apply

Funding Sources:

- New Jersey Recreational Trails
- US FHWA Transportation Enhancements

Benefits:

Safer pedestrian crossing allows better access to Washington Borough business district and reduces the risk of accident and injury.

Suggested Implementation Agencies:

- New Jersey Department of Transportation
- Warren County Morris Canal Commission
- Warren County Planning Department
- Warren County Road Department
- Washington Township

Recommendations : *greenway segments*

Segment 7: Washington Borough to Port Colden - 2.2 miles



Nearly all of the canal is destroyed through this segment of greenway that passes through downtown Washington Borough. There are few parks or other green space within this segment, but the sidewalk system is well developed. There are several schools within close proximity to the canal which could provide opportunities for linkages. Crossing the intersection of Routes 31 and 57 could prove difficult for pedestrians. Once the canal crosses Route 31, the character of the Borough becomes more suburban with relatively quieter streets and

traditional housing developments. (See Recommendations Maps 8 and 9 in the Maps section of this report.) (The WMC references the features identified in the “Historic Preservation Survey of the Morris Canal in Warren County, NJ. The index is found in Appendix H)



Washington Borough

Significant Features of Segment Seven:

- Proximity of the canal route to the James Campbell House, home of the one of a handful of African-American canal-boat captains on the Morris Canal, on North Lincoln Street. This dilapidated structure is in the process of being restored by his descendants through the nonprofit organization Campbell Cultural Heritage House, Inc. The closest sidewalks to the Campbell House are on Belvidere Avenue and West Carlton Street.
- Proximity of the rear and side of the Warren Hills Middle School property to the route of the canal and the James Campbell House, respectively. No direct connections currently exist between these two properties.
- The extensive sidewalk network from Belvidere Avenue at its intersection with the canal to downtown Washington Borough and its associated business district. The quaint downtown area hosts shops, eating establishments, a movie theatre, special events and other support services (banks, gas stations, municipal building, churches, etc.).
- The corridor associated with the abandoned Warren Railroad including two stone overpasses in good condition, one crossing over Route 31 and the other over Route 57. The railroad corridor extends from Changewater through Washington Borough to Oxford, Manunka Chunk and Delaware, with a connection to Belvidere and the Pequest Wildlife Management Area via the abandoned Lehigh and Hudson rail corridor. No direct connection

Recommendations : *greenway segments*

between the elevated rail bed and the street level at the end of Jackson Avenue and Johnston, Stewart, Hahn, and Brown streets exist, although there are informal dirt paths in some locations indicating pedestrian traffic.

- Extant buildings associated with Port Warren (WMC 92-95) and the railroad along Cattell Court, including the former railroad office, canal office, canal stables and residences, many of which are privately owned and still in good condition. Port Warren was a major shipping hub for the transfer of coal from the railroad to boats along the Morris Canal. These structures can more easily be seen from the adjacent abandoned rail corridor.
- Existing crosswalks at the intersection of Routes 31 and 57 to support pedestrian and bicycle traffic.
- Sidewalks along the east side of Route 31 and the north side of Myrtle Avenue up to its intersection with Heather Hill Road. An historic marker indicates where the canal crossed Route 31.
- Significant intrusions on the canal from Route 31 to the Washington Borough /Washington Township line. These intrusions consist of a major power line and encroachments from adjacent residential properties.
- Sidewalks along Flower Avenue and Harding Drive, along with a crosswalk at the intersection of these two streets.

The potential conversion of the abandoned Warren Railroad corridor to a trail provides the opportunity to connect the canal to a regional trail network and the related industrial history of Oxford Furnace and Shippen Manor. Even though there are crosswalks at the intersection of the Route 57 and 31, the overpasses associated with the Warren Railroad could better separate pedestrian and bicycle traffic from these busy highways.

The aesthetic impact of electric power lines between Kinnaman and Belvidere avenues and along Myrtle Avenue is a challenge in this area along with the sensitivity of reestablishing the canal corridor through residential neighborhoods.



James Campbell House



Old Port Colden Schoolhouse



The abandoned Warren Railroad corridor in Washington Borough

Recommendations: *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Seven Strategies Washington Borough to Port Colden

- 7 a Utilize existing sidewalk system to connect downtown Washington Borough with canal
- 7 b Pursue easement/connection with JCP&L between Kinnaman and Belvidere Aves.
Make physical and programmatic connections between Campbell House, Warren Hills Regional Middle School and Washington Borough Businesses and support efforts to restore Campbell House as interpretive center
- 7 c Work with property owners to encourage preservation of structures in Cattel Court (currently in private ownership)
- 7 d Work with Washington Borough and residents to complete pedestrian and bicycle trail along Myrtle Avenue and make aesthetic improvements
- 7 e Investigate feasibility of acquiring abandoned Warren Railroad right-of-way and associated overpasses for Route 31 crossing and future connection to regional rail-trail networks
- 7 f Work with Washington Business Improvement District to make programmatic connections to the canal
- 7 g Pursue access rights on preserved farmland for trail connections

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.	increases public and private support for and involvement in canal preservation efforts.
7 a							
7 b							
7 c							
7 d							
7 e							
7 f							
7 g							
7 h							

Recommendation 7a - Utilize existing sidewalk system to connect downtown Washington Borough with canal

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

A wide variety of business located in Washington Borough will be easily accessible to greenway users from out of town, as well as local residents utilizing the connection to access their services without using a car. Collaborate with Washington Borough to provide informational signage and mark connection from greenway, along sidewalks on Belvedere Avenue, connecting to the downtown businesses.

Recommendations: *greenway segments*

Recommendation(s):

A. Develop and sign Downtown Washington Borough Trail.

Time Frame and Milestones:

A. Complete within 1 to 2 years after the completion of recommendations 6a, 6e, and 7b.

Costs:

Initial: \$2,000 (cost of trail marking)

Operational: Does not Apply

Funding Sources:

- FirstEnergy Foundation
- PSEG Foundation
- Warren County Convention & Visitors Bureau
- Warren County Regional Chamber of Commerce

Benefits:

Completed trail would provide greenway users access to local restaurants and services, increasing the potential user base of these businesses. Trail would promote non-motorized connections to Washington Borough businesses and attractions.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Regional Chamber of Commerce
- Washington Borough
- Washington Borough Business Improvement District

Recommendations 7b - Pursue easement/connection with JCP&L between Kinnaman and Belvidere Avenues

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Recommendations : *greenway segments*

Project Description:

A trail connecting through the JCP&L property, along Kinnaman Road, provides a route along the path of the canal from Kinnaman through to Belvidere Avenue. At the western boundary of the property, the trail would need to be routed on the outside of the fence surrounding the vehicle parking area. As it passes this area, the trail would be able to follow along the canal towpath to Belvidere Avenue. Access to Lincoln Street and the Campbell House would be provided as a result.

Recommendation(s):

A. Expand conversations with JCP&L to obtain access rights and easement for trail construction.

Time Frame and Milestones:

A. Obtain access rights within 5 years, complete improvement of trail in concert with recommendations 6a and 6e.

Costs:

Initial: \$4,000 (\$100 per/hour x 40 hours) for negotiations and \$2,000 to \$10,000 for construction

Operational: \$2,500 per year maintenance

Funding Sources:

- FirstEnergy (JCP&L)
- Green Acres
- New Jersey Recreational Trails
- Warren County

Benefits:

Connection would be critical to providing access to Washington Borough businesses. Connection would allow access to recreational facilities and amenities along the greenway regionally, as well as accessing the Campbell House. Connection would also provide greenway access to Warren Hills Middle School.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 7c - Make physical and programmatic connections between Campbell House, Warren Hills Regional Middle School and Washington Borough Businesses and support efforts to restore Campbell House as interpretive center

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience.

Project Description:

Descendants of James Elliot Campbell have formed the non-profit The Campbell Cultural Heritage House, Inc. (CCHH) to begin raising funds to restore the home of one of a few African-American canal boat captains on the Morris Canal. The WCMCC recently donated an interpretive sign for future installation at the site once building restoration work has been completed. However, there is no direct connection to the adjacent middle school to facilitate educational visits to the Campbell House or any sidewalks to connect the site to the nearby greenway or downtown business district.

Recommendation(s):

Encourage CCHH to work with Middle School and Washington Borough representatives to develop trail and educational connections to the Campbell House and greenway.

- A. Assist CCHH in contact the school administration to discuss the feasibility of removing the chain link fence separating the house from school grounds and installing a sidewalk connecting the two properties. Ask the school and CCHH to document the terms of such a connection in a written agreement for future implementation once the home has been restored and opened to the public.
- B. Assist CCHH in contacting municipal officials and Business Improvement District representatives in Washington Borough to discuss alternatives for providing a physical connection between the greenway, Campbell House and downtown. Help investigate potential sources of funding to implement the proposed trail alternative to make the desired connections.
- C. In support of the Greenway-Wide School Education Project Strategies, encourage CCHH to coordinate future interpretive facilities and programs at the Campbell House with the new curriculum content.
- D. Include a visit to the Campbell House as part of the biannual WCMCC canal tours.

Time Frame and Milestones:

- A-B. Complete in coordination with the anticipated opening of the restored home for public visitation.
- C. Complete as interpretive facilities are developed at the house.
- D. Complete on an on-going basis

Recommendations : *greenway segments*

Costs:

Initial: \$3,000 (\$50/hour x 40 hours + \$25/hour x 40 hours)

Operational: Use existing staff and funding to conduct Task D tours.

Funding Sources:

- 1772 Foundation (separate program for African-American history projects)
- FirstEnergy (JCP&L)
- Warren County

Benefits:

Potential benefits of revenue from heritage tourism activities. Preservation of an important African-American history site and development of new educational opportunities.

Suggested Implementation Agencies:

- Campbell Culture Heritage House
- Warren County Morris Canal Committee
- Warren County Planning Department
- Washington Borough
- Washington Borough Business Improvement District

Recommendation 7d - Work with property owners to encourage preservation of structures in Cattel Court (currently in private ownership)

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

... leverages the value of the canal to support sound land use planning decisions.

Project Description:

Preserve the collection of Cattel Court historic resources as an example of a canal-related community.

Recommendation(s):

- A. Prepare publication on the history and significance of Cattel Court
- B. Offer property owners assistance in determining collective and individual preservation goals.

Recommendations : *greenway segments*

C. Work with the municipality to determine the possibility to enact an incentive-based historic preservation ordinance

Time Frame and Milestones:

A and B. Complete assessment of owners' interest and prepare history within 1 year.

C. Determine municipal interest within 1 year and complete model ordinance within 2 years.

Costs:

Initial: \$3,000 (\$25/hour x 40 hours + \$50/hour x 40 hours)

Operational: Does not apply

Funding Sources:

- Warren County Morris Canal Committee
- Warren County Planning Department
- Washington Borough
- Washington Borough Business Improvement District

Benefits:

Promotes opportunities for local businesses in Washington Borough. Preservation of an important canal site and development of new educational opportunities.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department
- Washington Borough
- Washington Borough Business Improvement District

Recommendation 7e - Work with Washington Borough and residents to complete pedestrian and bicycle trail along Myrtle Avenue and make aesthetic improvements

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Recommendations : *greenway segments*

Leaving Washington Borough the greenway passes through a residential neighborhood starting along Myrtle Avenue. Sidewalks are present along the north side of Myrtle, from Route 31 to just past South Pickle Avenue. The route of the canal follows to the south of Myrtle close to the roadway. The County currently has an access easement along the south edge of Myrtle to provide a trail connection. At the end of Myrtle, the path of the canal and a power line easement merge extending Flower Avenue.

Implementation of this connection can only be completed with close collaboration between existing land owners, Washington Borough and the county. It is likely that any construction of a trail in this area will require buffering and aesthetic improvements to address neighbor's privacy and security concerns.

As this connection is being developed, or if this connection becomes unattainable, an alternate connection can be made utilizing the existing sidewalks through the residential neighborhood to the north of Myrtle Avenue.

Recommendation(s):

- A. Develop collaborative plan to design and construct trail connection from the end of the existing sidewalk along Myrtle Avenue through to Flower Avenue.

Time Frame and Milestones:

- A. Meet with neighbors and develop a plan within 3 to 7 years. Construct trail within 10 years.

Costs:

Initial: \$12,000 to \$80,000 for trail construction and \$10,000 to \$15,000 for aesthetic improvements

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- Warren County

Benefits:

Provides greenway connections for public use as well as promoting access to Washington Borough.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Office of Land Preservation

Recommendations : *greenway segments*

- Warren County Planning Department
- Washington Borough

Recommendations 7f - Investigate feasibility of acquiring abandoned Warren Railroad right-of-way and associated overpasses for Route 31 crossing and future connection to regional rail-trail networks

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

As identified in the Recycling Railroads study completed by Sussex and Warren Counties in the late 70s, the abandoned Warren Railroad has the potential to be converted into a rail-trail providing valuable connections along a different alignment than the Morris Canal.

Locally, this abandoned rail grade has the potential to provide a safe, grade separate alternative to crossing Route 31 at its intersection with Route 57. Depending on the ultimate route selected, the rail bed could be accessed from several points west of Route 31 and greenway users could rejoin the sidewalks on the eastern side of Route 31 just after the overpass.

Consideration in making these connections will need to include evaluation of the potential that the direct route of the greenway would bypass the Washington Borough Business district and a study of accessibility issues associated with climbing and descending to and from the grade of the rail line.

Recommendation(s):

- A. Investigate feasibility associated with utilizing the abandoned rail-line as a trail alternative and consider the advantages and disadvantages.

Time Frame and Milestones:

- A. Complete study in 10 to 15 years.

Costs:

Initial: \$7,000 to \$10,000 cost of study

Operational: Does Not Apply

Funding Sources:

- New Jersey Recreational Trails

Recommendations : *greenway segments*

- Rails-to-Trails Grant Programs
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Connection has the potential to provide trail based access to Washington Borough businesses to users of two trail networks. Would also set the Borough up as a major trail crossroad and starting point. Connection would allow seamless access to other trail network and would provide a safe alternative for crossing Route 31.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Office of Land Preservation
- Warren County Planning Department
- Washington Borough

Recommendation 7g - Work with Washington Business Improvement District to make programmatic connections to the canal

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... stimulates the local economy through heritage tourism; and

... increases public and private support for and involvement in canal preservation efforts.

Project Description:

Washington Borough is roughly the mid-point of the greenway in Warren County. It is also one of the locations, along with Phillipsburg and Hackettstown, with a large number of businesses in close connection to the trail. Due to this, it would benefit local businesses and the greenway to create connections and cross promote. This could include strategies such as advertising space for local businesses on trail publications or even signage along the trail. In return, businesses could help promote the greenway, programs and issues. They could also support the trail in terms of monetary donations.

Recommendation(s):

- A. Work with Washington Business Improvement District to make programmatic connections to the canal.

Recommendations : *greenway segments*

Time Frame and Milestones:

A. Begin collaboration within 5 years

Costs:

Initial: Costs associated covered as part of business improvement strategies

Operational: Costs associated to be covered as part of business improvement strategies

Funding Sources:

- First Energy Foundation
- Local Businesses
- New Jersey Historic Trust
- PSEG Foundation
- Warren County Regional Chamber of Commerce
- Washington Borough
- Washington Borough Business Improvement District

Benefits:

Cross selling of businesses provides increase opportunities for advertising and potentially attracts consumers from a different base. Business support of greenway efforts can contribute to project completion.

Suggested Implementation Agencies:

- Warren County Regional Chamber of Commerce
- Warren County Morris Canal Committee
- Washington Borough
- Washington Borough Business Improvement District

Recommendations 7h - Pursue access rights on preserved farmland for trail connections

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Recommendations : *greenway segments*

Project Description:

Continue efforts to work with land owners in this segment to preserve properties and attain access rights to provide connections from Harding Drive to Port Colden Road. As properties and rights become available, reassess greenway routing based on potential connections.

Recommendation(s):

A. Continue efforts working with land owners on canal preservation and attaining access rights.

Time Frame and Milestones:

A. Efforts are on-going, although priorities should be reassessed every five years.

Costs:

Initial: Cannot be determined at this time

Operational: Cannot be determined at this time

Funding Sources:

- Green Acres
- Warren County

Benefits:

Additional land preservation and access rights contribute to additional connections and completion of portions of the greenway.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

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Recommendations : *greenway segments*

Segment 8: Port Colden to Port Murray - 3.2 miles



The canal makes a quick transition to a rural, forested landscape as it leaves Washington Township on its way to Port Colden. (See Recommendations Maps 9 and 10 in the Maps section of this report). In this segment of the greenway, the canal follows along the base of Upper Pohatcong Mountain before bending sharply south into the village of Port Colden. The village was named after Cadwallader Colden, who served for a time as president of the Morris Canal and Banking Company, and was developed

by William Dusenberry, who believed that the traffic generated by the canal would support a town. The village was listed on the National Register of Historic Places in 1999 as a historic district



Port Murray Canal Store

The canal continues its journey eastward along the base of Upper Pohatcong Mountain through a predominantly forested area, interrupted by only a few homes and associated agricultural fields as shown on Recommendations Maps 10, 11 and 12. An active rail line roughly parallels the south side of the canal for the entire length of this rather remote segment, restricting access to the Route 57 corridor except by Harts and Domin lanes. (The WMC references the features identified in the “Historic Preservation Survey of the Morris Canal in Warren County, NJ. The index is found in Appendix H)

Significant Features of Segment Eight

- A large preserved farm at the end of Harding Drive.
- A major power line paralleling the canal along its south side for approximately one-half mile immediately east of the Borough.
- Archaeological remnants of a 19th century house (WMC 87).
- Archaeological site of Lock 6W (WMC 85). This lock has been filled in, but elements of the lock walls, culvert and bypass channel remain evident. The lock tender’s house is in good condition and serves as a residence.
- The former Widener Canal Store (WMC 84) and Nunn-Skinner Canal Store (WMC 82) (Both of these structures are private residences that have been modified and are in good condition.)
- Archaeological site of the Port Colden Basin and Boat Yard (WMC 80), which have been mostly obliterated by the Port Colden Elementary School. Part of the canal prism exists at the southern edge of the school property, and the former shape of the western side of the canal basin can be seen along Port Colden Road.



Watered section of the canal between Port Colden and Port Murray

Recommendations : *greenway segments*

- Port Colden Methodist Church and the Port Colden Schoolhouse built along the edge of the former canal basin. These are often seen in historical photographs of the area. The church, built in 1893 is still in operation and in good condition, providing architectural interest to the historic district. The schoolhouse has been adaptively reused by the school district for administrative offices and includes an historic recreation of a schoolroom with displays on the first floor, an operational belfry and outdoor interpretive signage. Elementary school students visit the schoolhouse as part of their local history lessons.
- Dilapidated Port Colden Manor serves as a reminder of the village's former vitality in the 1800s, having originally been built as a ladies finishing school and subsequently used as a hotel and stagecoach stop.
- Archaeological remnants of Plane 6W (WMC 78), portions of which have been destroyed by the construction of modern homes and an access driveway.
- Plane 6W equipped with double tracks. Plane 6W differed from other planes in that it included a sawmill, scale and scale house operated by the canal company.
- Some features of Plane 6W remain on private property:
 - Remnants of the basins at the head and tail of the plane, flume intake, cable system, sleepers, wheelhouse foundation and tailrace
 - Ruins of the plane tender's or brakeman's house at the head of the plane
 - Foundational ruins of the saw mill
 - Three frame buildings that may have been used as worker housing, one at the base of the plane and the others along its south side
- The former trolley barn constructed by the Easton-Washington Traction Company that ran between Port Murray and Phillipsburg, stopping at Port Colden Manor. Although not associated with the canal, the structure was built of concrete manufactured at Thomas Edison's Portland Cement Company in New Village. This resource is another example of the changing forms of transportation at the beginning of the 20th century.
- Several large agricultural and forested tracts of land that have been preserved by the county as farmland or open space.
- A watered section of the canal approximately 3,500 linear feet in the vicinity of Harts Lane.
- Archaeological remnants of Plane 5W (WMC 71) incorporated in the former brickyard tract. Previous clay quarrying at this site in combination with recent ATV usage has resulted in significant damage to the plane. This damage has destroyed one side of the wheelhouse foundation and pit, leaving the remaining portion of this structure visible from the side and portions of the tailrace tunnel.
- Direct access to Hoffman Road from the brickyard tract, but a lack of sidewalks connecting the tract to the village of Port Murray.



The Port Colden Schoolhouse in the early 1900s. Image courtesy www.washington-twp-warren.org



Easton-Washington traction trolley barn in Port Colden



Mansfield Township Park

Recommendations : *greenway segments*

- Limited access to Brickyard Road and the nearby Comcast athletic fields via a shared use driveway and bridge over the active rail line. There are no sidewalks along Brickyard Road.
- The extant Robinson Canal Store, stable and blacksmith Shop (WMC 68), a 19th century commercial complex that also includes a clapboard house, former ice house and spring house. These secluded structures are bound on the north by a relatively intact section of the canal and on the south by an active rail line. The buildings are in excellent condition and nearly free of any alteration.

Significant interpretive opportunities exist if educational activities can be expanded to include student visits to the features at Plane 6W. Although a significant portion of the canal falls within a preserved farm, there is no easement allowing public access to the canal through the property to connect Washington Borough with Port Colden. The stately Port Colden Manor is in such deteriorated condition that restoration and adaptive reuse of this building seems unlikely.

There are gaps in this segment of the greenway because of private ownerships of a number of parcels. Continued ATV use of the remote brickyard tract has the potential to damage the remaining features of Plane 5W, especially the wheelhouse foundation, which is in need of stabilization. The setting and structures associated with the Robinson Canal Store have considerable interpretive potential.

Recommendations : *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Eight Strategies Port Colden to Port Murray

- 8 a** Encourage preservation of and enhance physical and programmatic connections between the canal and Port Colden Elementary School, including but not limited to Port Colden Manor, the canal stores, the church, the school house and privately owned canal sites
- 8 b** Screen view of Recycling Center from canal
- 8 c** Preserve canal property and/or pursue access rights from Port Colden Elementary School to Brickyard site in accordance with Canal Properties Inventory
- 8 d** Preserve and interpret Plane 6W and the Easton - Port Colden Trolley Line
- 8 e** Investigate maintaining existing watered sections in the area between Plan 5W and Plane 6W
- 8 f** Develop a master plan for stabilization and future use of the Brickyard Site
- 8 g** Connect canal to Comcast Fields, Mansfield Township Park and Municipal Building and Port Murray Elementary School via a trail along Brickyard and Port Murray Roads
- 8 h** Construct trail head and parking area along Hoffman Road

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for and involvement in canal preservation efforts.

Recommendations 8a - Encourage preservation of and enhance physical and programmatic connections between the canal and Port Colden Elementary School, including but not limited to Port Colden Manor, the canal stores, the church, the school house and privately owned canal sites

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

Port Colden has a large collection of canal-associated and other historic resources. The Port Colden school has developed a self-guided walking tour and accompanying brochure of Port Colden. Educational programs featuring these local history resources would be enhanced if physical and programmatic connections between the resources were established for visitors to see the canal

Recommendations : *greenway segments*

and related resources during a walking tour of the area. Port Colden Manor is a unique historic resource, which if rehabilitated, could enhance the greenway experience in many ways.

Recommendation(s):

- A. Meet with Washington Township municipal officials and Port Colden property owners to discuss ways to interconnect the sites.
- B. Re-publish an expanded "Walking Tour of Historic Port Colden" brochure
- C. Investigate a historical marker program for historic buildings
- D. Develop a site-sensitive local history and canal curriculum
- E. Engage owner and facilitate the historic rehabilitation of Port Colden Manor

Time Frame and Milestones:

- A-C. Complete in one year.
- D. Complete within two years.
- E. Complete within five years.

Costs:

Initial: \$1,500 (\$50/hour x 20 hours + \$25/hour x 20 hours) + possible contribution from Washington Township School

Operational: Task E to include potential acquisition and rehabilitation costs which have to be determined

Funding Sources:

- Community Development Block Grant
- US FHWA Transportation Enhancements
- Washington Township

Benefits:

Potential benefits of revenue from heritage tourism activities. Preservation of an important canal site and development of new educational opportunities.

Suggested Implementation Agencies:

- Community Development Block Grant program
- Port Colden property owners and businesses
- US FHWA Transportation Enhancements
- Warren County Morris Canal Committee
- Washington Township School District

Recommendations : *greenway segments*

Recommendation 8b - Screen view of Recycling Center from canal

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

The Washington Township Convenience and Recycling Center is located adjacent to Port Colden Elementary School and just north of the path of the canal. As this section of greenway trail becomes completed, efforts to screen the views of the recycling center and municipal garage from the greenway would help to preserve the bucolic feel of the greenway in this area.

Recommendation(s):

A. Install vegetative screening between the recycling center and greenway.

Time Frame and Milestones:

A. Complete in 10 to 15 years.

Costs:

Initial: \$10,000

Operational: Does Not Apply

Funding Sources:

- Possible volunteer effort for scout project or local environmental club or organization.

Benefits:

Limits views of recycling center and preserves aesthetics of local trail sections.

Suggested Implementation Agencies:

- Volunteer efforts of Scouts, environmental clubs or organizations
- Warren County Morris Canal Committee

Recommendations : *greenway segments*

Recommendation 8c - Preserve canal property and/or pursue access rights from Port Colden Elementary School to Brickyard site in accordance with Canal Properties Inventory

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Continue efforts to work with land owners in this segment to preserve properties and attain access rights to provide connections from Port Colden Elementary School to the Brickyard site in Port Murray. As properties and rights become available, reassess greenway routing based on potential connections.

Recommendation(s):

A. Continue efforts working with land owners on canal preservation and attaining access rights.

Time Frame and Milestones:

A. Efforts are on-going, although priorities should be reassessed every five years.

Costs:

Initial: Cannot be determined at this time

Operational: Cannot be determined at this time

Funding Sources:

- Green Acres
- Warren County

Benefits:

Additional land preservation and access rights contribute to additional connections and completion of portions of the greenway.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 8d - Preserve and interpret Plane 6W and the Easton- Port Colden Trolley Line

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

Preserving and interpreting the inclined planes of the Morris Canal is a key element in preserving its story. The Easton-Washington Traction Company which built and operated a trolley line is another chapter in the history of the county.

Recommendation(s):

- A. Determine owner interest in preservation and prepare a detailed evaluation of the integrity of the resources
- B. Prepare brochure/display on the former Easton-Washington Traction Company trolley line.

Time Frame and Milestones:

A and B. Complete discussions with the property owners within one year. Seek funding for archaeological/historical inventory

Costs:

Initial: Tasks A & B: \$2,500 (\$50/hour x 40 hours + \$25/hour x 20 hours)

Operational: TBD after initial phase

Funding Sources:

- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust
- Warren County

Benefits:

Historic preservation project creates jobs, increases property values, conserves resources, supports small businesses, attracts investment, and attracts visitors. Promotes public education by telling the story of the Morris Canal.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- College/University Historic Preservation and/or Archaeological programs
- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust
- Preservation consultants

Recommendation 8e - Investigate maintaining existing watered sections in the area between Plan 5W and Plane 6W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience

Project Description:

The Morris Canal in Warren County currently holds water in a limited area between Plane 5W and Plane 6W. The maintenance associated with preserved watered sections of the canal is significantly greater than in those areas without water due to the potential damage flooding events can cause. In addition, the Warren County Mosquito Commission is concerned about the health hazards related to stagnant water conditions. However, watered sections of the canal could potentially be utilized for interpretive programs and water-related recreational activities. Further investigation is needed to assess the potential benefits of preserving a watered length of the canal.

Recommendation(s):

Complete a study of the factors associated with preserving and maintaining the existing watered areas of the canal.

- A. Conduct an engineering analysis of the stream and stormwater flows entering and leaving the existing watered areas of the canal during various storm events. Compare the study results with the current condition of the canal to identify any areas of stress caused by watershed flows. Determine the work and costs associated with addressing any stresses and maintaining the watered areas, with input from other organizations in the region operating watered canals.
- B. Work with the Mosquito Commission to develop a plan to maintain the existing watered areas of the canal without compromising public health. Determine the work and costs associated with implementing the plan.
- C. Identify how the existing watered areas of the canal could support different kinds of educational programs and recreational activities in comparison to other sections of the canal. Determine the cost of any improvements needed to provide these unique programs and activities.
- D. Compare the work and costs involved with Tasks A, B and C above with the value of the unique educational and recreational benefits to determine the long-term practicality of maintaining the watered areas of the canal in perpetuity.

Recommendations : *greenway segments*

Time Frame and Milestones:

- A. Completed in 6 months.
- B. Completed in 3 months
- C-D. Completed in 6 months

Costs:

Initial: \$35,000

Operational: To be determined based upon results of all tasks.

Funding Sources:

- Warren County

Benefits:

Potential heritage tourism benefit of providing access to a watered area of the canal. Potential stormwater management benefit of using the canal to retain water. Historic value associated with preserving a watered section of the canal for educational and recreational purposes.

Suggested Implementation Agencies:

- NJ RC&DC
- Organizations operating other watered canals in the region
- Warren County Engineering Department
- Warren County Morris Canal Committee
- Warren County Mosquito Commission
- Warren County Planning Department

Recommendation 8f - Develop a master plan for stabilization and future use of the Brickyard Site

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals;

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride;

Recommendations : *greenway segments*

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county; and

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The location of Plane 5 West, The Brickyard site represents a unique opportunity for the interpretation of an inclined plane. Although much of the plane has been destroyed by quarrying and other operations associated with brick manufacturing on the site, it still remains a valuable resource for interpretation. Excavations exposed portions of the the turbine chamber, creating a unique sectional type view. Additionally, this expansive property has the potential to provide many additional interpretive and recreational opportunities.

To fully explore, understand and develop these opportunities, it would be beneficial to prepare a master plan for the stabilization and reuse of this site. At a minimum, the master plan should:

- assess the current conditions of the historic resources on the site;
- prioritize features or locations for stabilization and repair;
- identify interpretive and recreational opportunities and the improvements required to serve them;
- provide cost estimates for design and construction of any features; and
- projected maintenance and operation costs associated with the improvements.

Recommendation(s):

A. Develop master plan for future of Brickyard Site

Time Frame and Milestones:

A. Complete master plan within 5 to 10 years

Costs:

Initial: Cost of master plan \$25,000 to \$40,000

Operational: To be determined based on recommendations of master plan.

Funding Sources:

- 1772 Foundation
- Comcast Foundation
- National Trust for Historic Preservation
- New Jersey Historic Commission
- New Jersey Historic Trust
- Preserve America
- Save America's Treasures
- Tourism Cares for Tomorrow

Recommendations : *greenway segments*

Benefits:

Development of this site as an interpretive hub along the canal will help draw visitors, potentially providing patrons for businesses in Port Murray. Excellent opportunity for creating new venues for interpretation and recreation along the greenway. The Brickyard's size allows flexibility in the types of opportunities provided here. Site is also well located to contribute to wealth of regional recreation opportunities within close proximity, including Comcast Sports fields and the Mansfield Township Park.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 8g - Connect canal to Comcast Fields, Mansfield Township Park and Municipal Building and Port Murray Elementary School via a trail along Brickyard and Port Murray Roads

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The Comcast Sports Fields and Mansfield Township Park are both significant recreational facilities in close proximity to the greenway as it passes through the Brickyard. A short distance away, it is also possible to provide connections to the Mansfield Municipal Tennis Courts and Mansfield Elementary School. Connection of these resources could be completed with the construction of trail connections on public or quasi-public properties.

Proposed trail should follow Brickyard Road; utilize the Comcast Sports Fields to access Port Murray Road. A crossing at Port Murray Road will be required to access the Township and School properties on the east side of the road. This crossing should be aligned with the driveway to the Mansfield Township Sports Fields. Once on the east side of Port Murray Road, the trail can easily be routed on the Township and School Property along the edge of the roadway.

Recommendation(s):

- A. Design and construct a trail connecting greenway, Comcast Sports Fields, Mansfield Township Park, Mansfield Township Municipal Tennis Courts and the Mansfield Elementary.

Recommendations : *greenway segments*

Time Frame and Milestones:

A. Construct trail within 7 to 10 years.

Costs:

Initial: \$23,000 to \$55,000

Operational: Does Not Apply

Funding Sources:

- Comcast Foundation
- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements

Benefits:

Creation of trail provides trail based access from greenway to regional active and passive recreational opportunities. Trail would also provide connections between these opportunities, exclusive of the greenway.

Suggested Implementation Agencies:

- Comcast Foundation
- Mansfield Township
- Mansfield Township School District
- Warren County Department of Land Preservation
- Warren County Planning Department
- Warren County Road Department

Recommendations 8h - Construct trail head and parking area along Hoffman Road

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Recommendations : *greenway segments*

Project Description:

Even prior to completion of other greenway connections or a formal master plan for the Brickyard, it presents excellent recreational opportunities. Even with completion of the master plan, it is likely that security and access issues will prohibit public access to the property utilizing Brickyard Road. Given these conditions, the small parcel currently owned by the county, along Hoffman Road, represents a good location for construction of a trail head and parking lot. To limit maintenance responsibilities, trailhead facilities in this area should be limited to parking and an informational kiosk. Should additional facilities be required, they can be added at a future point. Additional measure will also be required to provide adequate screening and other measures to address the potential privacy and security concerns of the adjacent home owners.

Recommendation(s):

A. Design and construct a trailhead with limited facilities.

Time Frame and Milestones:

A. Complete construction in 2 to 4 years.

Costs:

Initial: \$10,000 (assumes 10 spaces and limited improvements)

Operational: \$2,000 to \$3,000

Funding Sources:

- Rails-to-Trails grant programs
- New Jersey Recreational Trails
- Green Acres
- Warren County

Benefits:

Creation of trailhead facilities provides a safe and legitimate access point to the greenway. This location also allows the access point to be visible and discourages illicit activities.

Suggested Implementation Agencies:

- Mansfield Township
- Warren County Engineering Department
- Warren County Morris Canal Commission
- Warren County Planning Department
- Warren County Road Department

Recommendations : *greenway segments*

Segment 9: Port Murray to Rockport Pheasant Farm - 3.3 miles



The presence of the Morris Canal and a former station of the Morris and Essex Railroad spurred the formation of the village of Port Murray, named after Colonel James Boyle Murray, the third president of the Morris Canal and Banking Company. Listed on the National Register of Historic Places in 1996, the village still retains some of its historic charm and architectural interest. Heading east from the village, the canal passes through a mixture of residential lawn areas, farm fields and forested areas as it continues along the base of Upper Pohatcong Mountain before it converges with

Rockport Road. (See Recommendations Maps 13, 14 and 15 in the Maps section of this report). The canal closely follows the south side of Rockport Road from Cherry Tree Bend Road to Hazen Road, awkwardly crossing through the manicured front lawns of modern residences before weaving in and out of farm fields, wooded areas and an industrial property. (The WMC references the features identified in the "Historic Preservation Survey of the Morris Canal in Warren County, NJ. The index is found in Appendix H)

Significant Features of Segment Nine

- Proximity of the canal to several important public facilities:
 - The Mansfield Township municipal complex consisting of tennis courts, ballfields, a walking trail, picnic areas and parking facilities surrounding the municipal building. There are attractive views from this park at the top of the hill.
 - The Mansfield Township Elementary School with its ballfields and playgrounds.
- Lack of mid-block crossings along Port Murray Road/Main Street in the vicinity of the Brickyard and Towpath roads.
- The narrowness of Port Murray Road/Main Street, Towpath Trail and Cherry Tree Bend Road and the associated lack of sidewalks. The existing Main Street bridge over the rail line is very narrow with poor visibility due to a vertical and horizontal bend in the road. Cherry Tree Bend Road is very windy in spots with poor visibility around some bends.
- The former McCreary Canal Store (WMC 62) with its Italianate trim, situated immediately along the north bank of the canal to facilitate the receipt and shipping of goods. The building is in good condition and is currently used for residential purposes.



Historic building along the canal just outside of Port Murray

Recommendations : *greenway segments*

- Archaeological remnants of a stone lime kiln (WMC 63) along Towpath Road.
- The former railroad station and two rail cars along Towpath Road. Restoration efforts are underway to convert the train station into a local history museum.
- The former Port Murray Canal Basin and Boat Yard (WMC 61) at the end of Towpath Road. The basin is relatively intact, although the archaeological remains of boat yard have been covered by a significant amount of fill.
- A segment of the canal and towpath between the end of Towpath and Cherry Tree Bend roads that have been preserved as open space by the county. The north end of this site is marked with an interpretive sign. A wooden boardwalk and staircase respectively provide pedestrian access across a wetland area and up the hillside to Cherry Tree Bend Road.
- A short segment of the canal situated in a wooded area preserved as municipal and county open space.
- A significant amount of preserved agricultural land between the active rail line and Washburn Road. The views of this agricultural area from Washburn Road are strikingly beautiful. A preserved farm at the intersection of Snyder and Rockport roads contains an attractive barn with a unique architectural style.
- Paved shoulders, varying in width, along Rockport Road. Utility poles along both sides of this road parallel the shoulders. No sidewalks existing along this roadway.
- A wooded open space area at the intersection of Washburn and Rockport roads owned by New Jersey as part of the Rockport Pheasant Farm. The property contains a portion of the canal.
- The Former Sliker Canal Store at the intersection of Rockport and Hazen roads (WMC 46). The building has been considerably altered.
- Historic markers indicating the location of canal crossings at Washburn and Thomas roads.



Remnants of Rockport Boat Basin at Rockport Pheasant Farm



Entrance to existing section of trail off Cherry Tree Bend Road.

The active rail line and the narrowness of the existing road network are major obstacles to maximizing the educational and recreational opportunities created by interconnecting the canal with the elementary school, municipal park, Comcast fields, former boat basin and historic train station in Port Murray and linking the canal to the Rockport Pheasant Farm. Limited public ownership of the canal in this segment prompts consideration of alternative routes between Port Murray and the Rockport Pheasant Farm.

Recommendations : *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Nine Strategies Port Murray to Rockport Pheasant Farm

- 9 a Complete a study of railroad crossing options to provide pedestrian and bicycle connections between the Village of Port Murray and surrounding park, school and canal resources
- 9 b Preserve canal property and/or pursue access rights from Hoffman Road trail head to Tow Path Road trail head in accordance with Canal Properties Inventory
- 9 c Investigate feasibility for parking area, visitor access and development of Port Murray boat basin area
- 9 d Complete a study of alternative route for trail routing from existing trail at Cherry Tree Bend Rd. to Washburn Road parking area utilizing agricultural preservation lands with land owner and SADC approval
- 9 e Preserve canal property and/or pursue access rights from Washburn Road trail head to Hazen Road trail head in accordance with Canal Properties Inventory

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

- highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals
- tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.
- interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.
- provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.
- stimulates the local economy through heritage tourism.
- leverages the value of the canal to support sound land use planning decisions.
- increases public and private support for and involvement in canal preservation efforts.

9 a						
9 b						
9 c						
9 d						
9 e						

Recommendation 9a - Complete a study of railroad crossing options to provide pedestrian and bicycle connections between the Village of Port Murray and surrounding park, school and canal resources

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The most direct connection between the greenway, the Village of Port Murray and the Mansfield Township recreational and educational resources to the south would be along Port Murray Road. Many portions of Port Murray Road could be bypassed by utilizing a trail connection to the Mansfield Township Park, however to access this from Port Murray Village, a trail connection would need to cross the Norfolk Southern Rail Line. The only crossing in this area is along Port Murray Road. The roadway approached the rail line at an oblique angle and must change grade quickly to pass over top. This is achieved with a very narrow bridge with limited sight distances. The conditions on the bridge are problematic when vehicles approach in either direction at the same time. This condition would be exacerbated with the addition of pedestrians and other trail users.

Without this connection, the nearest location for residents to cross the rail line safely would be utilizing a potential trail from along Brickyard Road.

Recommendations : *greenway segments*

Completion of improvements to make the bridge pedestrian friendly may be very costly or not possible at all. To assess the possibilities of this or other routes over the Norfolk Southern Line, a study should be completed to understand the implications, costs and benefits of such a project. With this information it can be decided if this connection is critical enough to warrant further design and construction.

Recommendation(s):

- A. Complete a study of railroad crossing options to provide pedestrian and bicycle connections between the Village of Port Murray and surrounding park, school and canal resources.

Time Frame and Milestones:

- A. Complete study in 10 to 15 years.

Costs:

Initial: \$5,000 to \$7,000

Operational: Does Not Apply

Funding Sources:

- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Safe trail based connections to the amenities located along Port Murray Road will promote access of these facilities from the Village of Port Murray by walking.

Suggested Implementation Agencies:

- Mansfield Township
- New Jersey Department of Transportation
- Warren County Engineering Department
- Warren County Planning Department
- Warren County Road Department

Recommendations : *greenway segments*

Recommendation 9b - Preserve canal property and/or pursue access rights from Hoffman Road trail head to Tow Path Road trail head in accordance with Canal Properties Inventory

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Continue efforts to work with land owners in this segment to preserve properties and attain access rights to provide connections from the Hoffman Road trail head to the Tow Path Road Trail Head. As properties and rights become available, reassess greenway routing based on potential connections.

Recommendation(s):

A. Continue efforts working with land owners on canal preservation and attaining access rights.

Time Frame and Milestones:

A. Efforts are on-going, although priorities should be reassessed every five years.

Costs:

Initial: Cannot be determined at this time

Operational: Cannot be determined at this time

Funding Sources:

- Green Acres
- Warren County

Benefits:

Additional land preservation and access rights contribute to additional connections and completion of portions of the greenway.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 9c - Investigate feasibility for parking area, visitor access and development of Port Murray boat basin area (Dennis Berthland Heritage Area)

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Approximately 1,200 feet of existing trail can be accessed from the end of Tow Path Trail, connecting to Cherry Tree Bend Road. Tow Path Trail is a small public road which dead ends at the trail and the remnants of the Port Murray Boat Basin. The area around the boat basin was recently dedicated as the Dennis Berthland Heritage Area. The nature of the road gives it the appearance more consistent with a driveway than trail access. In addition there is currently no place to park vehicles in this area. Users of the existing trail segment are forced to park at the existing pull-off along Cherry Tree Bend, which has capacity for about 3 cars.

Land owner constraints may not allow it, but if possible a parking area at the end of Tow Path Trail would be an excellent place to access this portion of trail, especially as larger connections are made. The close proximity of the Port Murray Boat Basin, would also provide excellent and easily accessible opportunities for interpretation of this historic resource.

Recommendation(s):

- A. Complete a feasibility study to determine if space and land owner sentiment will allow for development of a trail head and interpretive signage at the end of Tow Path Trail.

Time Frame and Milestones:

- A. Complete the study within 2 to 5 years.

Costs:

Initial: \$5,000 cost of study

Operational: Cannot be determined at this time.

Funding Sources:

- Green Acres
- New Jersey Historic Trust
- New Jersey Recreational Trails
- Warren County

Recommendations : *greenway segments*

Benefits:

Construction of trail head would allow more users to access this portion of trail.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 9d - Complete a study of alternative route for trail routing from existing trail at Cherry Tree Bend Rd. to Washburn Road Parking Area utilizing agricultural preservation lands with land owner and SADC approval

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience; and

Project Description:

Complete a study of alternate routes for providing a connection from Port Murray to Washburn Road parking area. Study should primarily focus on two possible routes, but also identify other routes for consideration. The routes are:

1. Utilizing the existing trail, connection Tow Path Trail to Cherry Tree Bend, the trail would continue as a road walk along Cherry Tree Bend Road until its intersection with Rockport Road. At its intersection with Rockport Road, the trail would follow Rockport Road, along the shoulder, for a short distance to the Washburn Road parking area.

This route could be established with minimal effort, but it does have some drawbacks. Cherry Tree Bend Road would be a pleasant walk, but it is narrow and very windy. This limited the sight distances and the terrain constrains the potential to widen the road to accommodate a trail along the shoulder.

2. Connecting from the eastern end of the Mansfield Township Park, the trail would exist through private properties. It would traverse through several large tracts, some in agricultural preservation, following a small creek to Washburn Road. At Washburn Road, the trail would turn north, passing under the Norfolk Southern Line with Washburn Road, then quickly reaching the Washburn Road parking area.

Recommendations : *greenway segments*

This route eliminates some of the potential difficulties associated with placing a trail on a narrow roadway, such as Cherry Tree Bend. However, completion of this alternative will require significant corporation of the adjacent land owners. Crossing parcels in agricultural preservation will also require permission from and coordination with State Agriculture Development Committee (SADC). Routing of the trail in this direction also does not take advantage of the existing portion of trail and interpretive opportunities found at the end of Tow Path Trail.

Recommendation(s):

A. Complete study of alternate trail routes and construct trail based on the findings of the study.

Time Frame and Milestones:

A. Complete study in 5 to 7 year time, and complete trail construction within 3 years of completion of study.

Costs:

Initial: \$7,000 to \$10,000 for completion of study. Cost for construction of trail, unable to be determined at this time.

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Completion of this trail would provide connections to existing trail segments, recreational and historic resources.

Suggested Implementation Agencies:

- State Agriculture Development Committee
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department

Recommendations : *greenway segments*

Recommendation 9e - Preserve canal property and/or pursue access rights from Washburn Road trail head to Hazen Road trail head in accordance with the Canal Properties Inventory

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Continue efforts to work with land owners in this segment to preserve properties and attain access rights to provide connections from the Washburn Road to the Hazen Road Trail Head. As properties and rights become available, reassess greenway routing based on potential connections.

Recommendation(s):

A. Continue efforts working with land owners on canal preservation and attaining access rights.

Time Frame and Milestones:

A. Efforts are on-going, although priorities should be reassessed every five years.

Costs:

Initial: Cannot be determined at this time

Operational: Cannot be determined at this time

Funding Sources:

- Green Acres
- Warren County

Benefits:

Additional land preservation and access rights contribute to additional connections and completion of portions of the greenway.

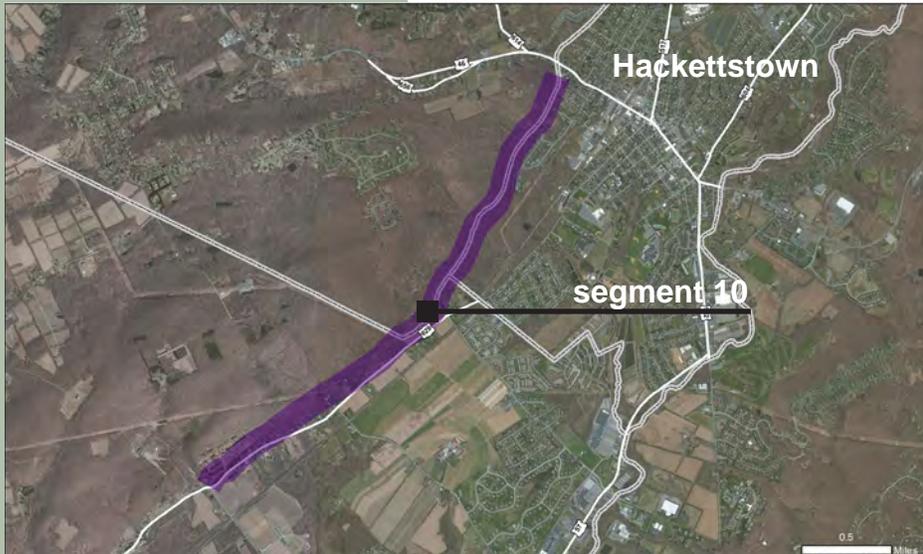
Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

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Recommendations : *greenway segments*

Segment 10: Rockport Pheasant Farm to Florence Kuipers Park - 3.3 miles



Snaking along the foot of Upper Pohatcong Mountain, this segment encounters farms and forests associated with the state's Rockport Pheasant Farm before it enters the urban environment of Hackettstown. (See Recommendations Maps 13, 14 and 15 in the Maps section of this report). More than 50,000 pheasants are raised annually at the farm in the complex of breeding, egg storage, incubation, brooding and ranging facilities before they are released onto approximately 100,000 acres of land within the state's system of Wildlife Management Areas. Using the

proceeds from the sale of quail and pheasant stamps to 15,000+/- hunters, the farm "provides over 160,000 man-days of outdoor recreation annually" and "generates \$2.6 million in income to local businesses such as gas stations, motels, diners, taxidermists and sporting goods stores." (The WMC references the features identified in the "Historic Preservation Survey of the Morris Canal in Warren County, NJ." The index is found in Appendix H).

Significant Features of Segment Ten

- Obliteration of the canal at the intersection of Hazen and Rockport Roads in addition to the lack of good visibility at this intersection due to its configuration and surrounding buildings.
- Remnants of the Rockport Canal Basin (WMC 44) and a preserved section of the canal prism and towpath on the Pheasant Farm property north of Rockport Road and an associated historic marker about the basin and former canal store. The basin was "recently drained as a precaution against the introduction of avian flu."
- A parking lot, informational kiosk and exotic bird pens on the Pheasant Farm property on the south side of Rockport Road. Picnicking is allowed on the farm, but no restroom facilities are provided.
- Attractive views to the south of the Musconetcong Valley and Schooley's Mountain from the Pheasant Farm.
- A preserved farm abutting the south side of the pheasant farm.
- Proximity to the canal to the 1925 Rockport Train Wreck and associated memorial along Hazen Road within the pheasant farm.
- A stone culvert (WMC 41) in good condition.
- An emergency services station along Airport Road just south of Rockport Road.



A trail marker indicating existing trail routes in Florence Kuipers Park.



Most streets in Hackettstown have sidewalks.

Recommendations : *greenway segments*

- Substantial encroachments on the canal as it passes through private property on the north side of Rockport Road from Airport to Allen roads.
- Proximity of the canal to the Donaldson Farms offering fresh produce, homemade baked goods, flowers, pick-your-own pumpkins and strawberries, corn maze, group and private tours, birthday parties, kids farm camp, corporate events and farm market fundraising activities.
- The presence of paved shoulders of varying widths, but no sidewalks, along Rockport Road from Rockport Pheasant Farm to Allen Road. Utility poles occur along both sides of this road paralleling the shoulders.
- Obstruction caused by the railroad overpass just east of the intersection of Allen Road with Rockport Road/Grand Avenue, narrowing the roadway to a single vehicular travel lane.
- Access to a network of sidewalks in the existing residential developments east of Allen Road and south of Grand Avenue. There are no sidewalks along the north side of Grand Avenue along the state-owned land.
- Proximity of the canal to the Charles O. Hayford Fish Hatchery where cool- and warm-water fish are raised for stocking. The hatchery is owned and operated by NJDEP in conjunction with the Pequest Trout Hatchery and Natural Resource Education Center. Although this facility is usually closed to the public, a centennial celebration is scheduled for June 2012 to include tours of the property, bird-watching hikes, demonstrations of fishery equipment, two ponds for fishing and a kid's fish tank.
- Florence Kuipers Memorial Park, a ribbon-shaped county-owned park containing the canal prism and towpath as it passes between preserved state forestland associated with the Rockport Pheasant Farm. The golden dome of Centenary College can be seen through the woods in late fall, winter and early spring when the leaves are not on the trees. Site furnishings include park entrance signage and trail markers. A footbridge just east of the canal's intersection with Roosevelt Street is in need of repair and does not accommodate handicapped access.
- Florence Kuipers Memorial Park includes the remnants of a canal store (WMC 27-31) marked with an interpretive sign. Access to this recreational area is provided in a number of ways:
 - Buck Hill Road, a one-lane gravel roadway in very poor condition leading north from Grand Avenue through state land and passing under the active rail line. There are no sidewalks along this primitive drive. The county has preserved a small parcel along Buck Hill Road near Grand Avenue for the purposes of providing parking.
 - Roosevelt Street, a paved local street that ends in a cul-de-sac in the middle of the canal, intersecting with the towpath trail. No sidewalks exist along this narrow road.
 - Harvey Street, a paved local street without sidewalks.
- Archaeological remains of a canal-related commercial district (WMC 27-31) in the vicinity of Harvey Street and Roosevelt Avenue consisting of a freight depot and foundry, coal and lumberyard and brewery on adjacent private property.



Entrance to the Hackettstown Train Station



Canal crossing Route 517 near the M&M Mars plant.



Florence W. Kuipers (1942-1999)

"Occupy a small space in a great way"

"A passion for horses and a love of riding brought Florence to the towpath of the former Morris Canal. She became an early member of the Warren County Morris Canal Committee and Board of Recreation Commissioners. She was active with the 4-H Horse Club and began to promote the vision of a greenway across Warren County so the public could enjoy using the canal towpath as a trail. While postmaster at Delaware, New Jersey, Florence would deliver mail on horseback each year on Customer Appreciation Day."

From Morris Canal Greenway Signage, Morris Canal Committee

Recommendations : *greenway segments*

- A privately owned wooded area associated with a residential development along Canal Way.

The extent of preserved county and state property in this segment is an asset to the greenway from a recreational and wildlife perspective, in addition to its role in protecting portions of the canal. There are several opportunities to use existing road access points and sidewalks to connect Hackettstown and its residents with Florence Kuipers Park. Alternate routes for bypassing private property along Rockport Road should be explored in relationship to the attraction of the pheasant farm and Donaldson Farms as visitor destinations. Provisions for safe road crossings along Rockport Road

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Ten Strategies Rockport Pheasant Farm to Florence Kuipers

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that

- 10 a Preserve canal property and/or pursue access rights from Rockport Pheasant Farm to Florence Kuipers Park access at Buck Hill Road in accordance with Canal Properties Inventory
- 10 b Build partnership with Donaldson Farms, adjacent residential developments, and Mansfield Township to explore alternate route between Rockport Pheasant Farm and Buck Hill Road trail head
- 10 c Improve Buck Hill Road trail head for pedestrian and bicycle access
- 10 d Provide connections between canal, residential neighborhood and Hackettstown Fish Hatchery south of Grand Ave
- 10 e Repair ATV damage and enact measures to discourage future access
- 10 f Replace bridge east of the Terminus of Roosevelt Avenue
- 10 g Enhance sidewalk connections between east end of Florence Kuipers Park, Centenary College and Hackettstown Train Station
- 10 h Make trail and programmatic connections between greenway and Hackettstown Business District

Downtown Phillipsburg to Lock Street

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for and involvement in canal preservation efforts.

Recommendations : *greenway segments*

Recommendation 10a - Preserve canal property and/or pursue access rights from Rockport Pheasant Farm to Florence Kuipers Park access at Buck Hill Road in accordance with the Canal Properties Inventory

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county; and

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Continue efforts to work with land owners in this segment to preserve properties and attain access rights to provide connections from Rockport Pheasant Farm to Florence Kuipers access at Buck Hill Road. As properties and rights become available, reassess greenway routing based on potential connections.

Recommendation(s):

A. Continue efforts working with land owners on canal preservation and attaining access rights.

Time Frame and Milestones:

A. Efforts are on-going, although priorities should be reassessed every five years.

Costs:

Initial: Cannot be determined at this time

Operational: Cannot be determined at this time

Funding Sources:

- Green Acres
- Warren County

Benefits:

Additional land preservation and access rights contribute to additional connections and completion of portions of the greenway.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 10b - Build partnership with Donaldson Farms, adjacent residential developments, and Mansfield Township to explore alternate route between Rockport Pheasant Farm and Buck Hill Road trail head

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience.

Project Description:

Alternative routes for the greenway and towpath trail should be investigated since several portions of the canal within this segment are in private ownership and may never be used as a trail. In particular, the evaluation process should include reaching out to local stakeholders to determine if the trail could be routed to connect to the Rockport Pheasant Farm with the new Mansfield Township Emergency Services site, Donaldson Farms, nearby residential developments, Charles O. Hayford Fish Hatchery and Florence Kuipers Park. The analysis should include the potential use of state and municipal lands, existing road rights-of-way and sidewalks and access easements through private property to maximize greenway connections.

Recommendation(s):

Talk with local residential, agricultural, municipal, and state landowners to evaluate the best route for a greenway trail between Rockport Pheasant Farm and Buck Hill Road to maximize linkages.

- A. Hold an informal meeting with Mansfield Township and NJDEP State Park representatives to identify alternative trail routes.
- B. Ask Mansfield Township to host an informal meeting on behalf of WCMCC with representatives of Donaldson Farms to discuss potential linkages between the farm and the greenway.
- C. Ask Mansfield Township to host informal meetings on behalf of WCMCC with representatives of surrounding residential neighborhoods to discuss potential linkages between these homes and the greenway
- D. Summarize results of all meetings in a written report, including a recommended strategy for implementing the preferred route.

Time Frame and Milestones:

- A. Complete within 1 month.
- B. Complete within 1 month.
- C. Complete within 6 months.
- D. Complete within 1 month.

Costs:

Initial: Task A = \$5,000 (\$50/hour x 80 hours + \$25/hour x 40 hours)

Operational: Does Not Apply

Recommendations : *greenway segments*

Funding Sources:

- Warren County

Benefits:

Potential increase in agritourism and heritage tourism revenue. Potential for new trail linkages between the greenway, local residents, municipal services and major recreational destinations. Potential for improved physical fitness as a result of interconnecting population areas with the towpath trail.

Suggested Implementation Agencies:

- Donaldson Farm
- NJDEP State Parks
- Mansfield Township
- Representatives from surrounding residential developments and neighborhoods
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 10c -Improve Buck Hill Road trail head for pedestrian and bicycle access

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county; and

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

A little over a mile of existing trail currently exists in Florence Kuipers Park. However, this trail is not accessible from the south. The unimproved, Buck Hill Road climbs the side of Pohatcong Mountain providing access from Grand Street. Currently, conditions on Buck Hill Road are steep and eroded, restricting access to four-wheel drive vehicles only. Also, considering the remote location found at the western end of Buck Hill Road, to avoid illicit activities, it would be beneficial to discourage vehicular access to this area.

Given these circumstances it would be beneficial to locate trail head facilities, along Buck Hill Road just after it passes under the Norfolk Southern Rail Line. Location of the trail here would require visitors to walk or ride their bikes up the approximately 1,200 feet to the trail at the top of Buck Hill Road, but it would avoid potential costs and issues associated with improving the roadway.

Recommendations: *greenway segments*

Recommendation(s):

A. Design and construct a trailhead with limited facilities.

Time Frame and Milestones:

A. Trailhead constructed in 3 to 5 years.

Costs:

Initial: \$10,000 (assumes 10 spaces and limited improvements)

Operational: \$2,000 to \$3,000 Yearly

Funding Sources:

- Rails-to-Trails grant programs
- New Jersey Recreational Trails
- Green Acres
- Warren County

Benefits:

Creating trailhead facilities will provide a safe, more visible location for greenway access, which will increase patronage of the trail and expand its user groups.

Suggested Implementation Agencies:

- Warren County Morris Canal Commission
- Warren County Planning Department

Recommendation 10d - Provide connections between canal, residential neighborhood and Hackettstown Fish Hatchery south of Grand Avenue

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

A large residential development and apartment community are located directly across Grand Street from the proposed Buck Hill Road Trail Head. Existing sidewalks and multi-use trails within

Recommendations : *greenway segments*

these developments could easily be utilized to provide access to the greenway. Additionally, creation of these connections would create potential for a connection to the Hackettstown Fish Hatchery, providing a unique destination along this portion of the greenway.

Since most of the path of this trail exists, the improvements required are limited. The largest improvement would be improvements to the crossing point at Buck Hill Road and Grand Street. This pedestrian crossing should be improved per ASSHTO requirements and will likely require striping, signage and possibly a flashing yellow light.

Other requirements to complete this connection would be signage and creation of a trail on fish hatchery property to access visitor areas.

Recommendation(s):

- A. Improve pedestrian crossing at Grand Street and Buck Hill Road.
- B. Mark route of trail.
- C. Create connector trail on Fish Hatchery Property to provide access to visitor areas.

Time Frame and Milestones:

- A-B. Complete within 5 years
- C. Complete within 5 to 7 years

Costs:

Initial: \$5,000 to \$25,000 for crossing improvements. \$10,000 to \$15,000 for additional trail connections and signage.

Operational: Does Not Apply

Funding Sources:

- Green Acres
- New Jersey Division of Fish and Wildlife
- New Jersey Recreational Trails
- North Jersey Transportation Planning Authority
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Connection has potential to increase visitorship at fish hatchery. Connections also provide trail based route for residents on the southeastern end of Hackettstown to access the downtown business district. Connections provide safe access for local residents to greenway and create links for educational opportunities and programs at the fish hatchery.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- New Jersey Department of Transportation
- New Jersey Division of Fish and Wildlife
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department

Recommendation 10e - Repair ATV damage and enact measures to discourage future access

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

In several areas near the Buck Hill Road access in Florence Kuipers Park, ATVs have caused damage to both the trail and the banks of the canal. Continued ATV use creates erosion issues, trail rutting and rouge trails. Efforts to discourage ATV use and repair the associated damages are critical limiting maintenance activities associated with the greenway trail.

First efforts should focus on discouraging ATVs from accessing the trail. Strategies start with locating points around the trail serving as access locations. Blocking existing trails is the first step to discouraging ATV access. ATV users typically won't dismount their vehicles to clear brush or other obstacles blocking their paths. In addition to creating blockages, evidence of existing trails should be covered with leaves and other debris to make a potential route less of an attractive option. Whatever methods employed to discourage access, specific measures should be taken to ensure that these methods do not create a potential hazard for ATV or other trail users.

Second efforts should focus on restoration of ATV damaged areas. Much of this can be achieved by camouflaging evidence of the existing trail as previously discussed. However, other sections may require additional fill to address drainage issues or potholes created by ATV traffic. In these cases, care should be given to stabilize any fill or other materials added.

Recommendation(s):

- A. Identify areas of ATV access and damage, and implement measures to discourage future access and repair existing damage as outlined above.

Time Frame and Milestones:

- A. Ongoing tasks as areas are identified.

Recommendations : *greenway segments*

Costs:

Initial: None. Assumes repairs can be made utilizing volunteer help and natural materials on site.

Operational: Does Not Apply

Funding Sources:

- Volunteer Labor
- Warren County

Benefits:

Addressing issues and repairing damage maintains safe and enjoyable trail experience.

Suggested Implementation Agencies:

- Mars Volunteer Program
- Other Volunteer Organizations
- Warren County Morris Canal Committee

Recommendation 10f - Replace bridge east of the terminus of Roosevelt Avenue

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

A small drainage created a deep gap in the towpath at the eastern end of Roosevelt Avenue. Currently the drainage is spanned by a small footbridge near the level of the drainage and well below the level of the towpath. This 'lower' crossing point requires trail users to descend to the level of the bridge then climb back up to the level of the towpath on the other side. The steep changes in elevation create accessibility issues for differently abled trail users, as well as bicyclists and parents pushing strollers along the trail.

Recommendation(s):

- A. Replace bridge at eastern terminus of Roosevelt Avenue with one that spans the gap while maintaining the grade of the towpath.

Recommendations : *greenway segments*

Time Frame and Milestones:

A. Replace bridge in 1 to 3 years

Costs:

Initial: \$45,00 to \$55,000

Operational: Does Not Apply

Funding Sources:

- Warren County

Benefits:

Construction of bridge maintains access for broader variety of trail users.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 10g - Enhance sidewalk connections between east end of Florence Kuipers Park, Centenary College and Hackettstown Train Station

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Both Centenary College and Hackettstown train stations represent sources with potential to serve large user groups utilizing the greenway. The train station's close location serves two important user groups. The first would be greenway users who utilize the train to take advantage of the recreational opportunities presented by the greenway. The second would be commuters or other train travelers who utilize the greenway to connect to the train station.

In addition to train patrons, students from Centenary College would likely contribute a large group of users to the greenway. The college's close location would allow students to access the greenway for exercise and recreation without the need for travel by car.

Either of these connections could be facilitated using a combination of existing sidewalks and road walks. Most of the streets facilitating these connections are residential and have limited travel speeds and traffic volumes.

Recommendations : *greenway segments*

Directional signage establishing the route would likely be the most critical part of promoting these connections.

Recommendation(s):

- A. Provide signage to identify the route to and from the Hackettstown Train Station and Centenary College connecting to the greenway.
- B. Make sidewalk and crossing improvements as need to facilitate connections.

Time Frame and Milestones:

- A. Complete within 2 years
- B. Complete as improvements are identified.

Costs:

Initial: \$2,000 to \$3,000 for installation of signage

Operational: Dependent on improvements identified.

Funding Sources:

- New Jersey Historic Trust
- New Jersey Department of Transportation
- New Jersey Recreational Trails
- US FHWA Transportation Improvements

Benefits:

Encouraging additional foot traffic past businesses along or near the connections has the potential to increase client base. Connections to train station make commuting an option to larger consumer base. Connections to college make exercise and recreation along the length of the greenway a more attainable alternative.

Suggested Implementation Agencies:

- Centenary College
- New Jersey Transit
- Town of Hackettstown
- Warren County Morris Canal Committee

Recommendations : *greenway segments*

Recommendation 10h - Make trail and programmatic connections between greenway and Hackettstown Business District

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

The Town of Hackettstown has an active business district that can provide greenway users with access to various support services from a towpath trail. The sidewalk connections recommended in Project Strategy 10g will link the greenway to the town's existing sidewalk system that extends throughout the downtown business district. However, greenway users will be unaware of the support services available to them in town unless the trail and sidewalk connection work is accompanied by marketing efforts to publicize local businesses.

Recommendation(s):

Develop and market a "Visit Hackettstown" initiative to encourage greenway users to patronize downtown businesses.

- A. Meet with Hackettstown municipal officials and Business Improvements District representatives to discuss ways to utilize the downtown sidewalk system to interconnect the greenway to the business district.
- B. Work with local stakeholders to identify a desired sidewalk route from the towpath trail at Florence Kuipers Park through the downtown business district to maximize exposure to support services and other recreational and educational amenities. Help educate business owners about the initiative to encourage them to promote the program to their customers.
- C. Help the Business Improvement District develop and implement a plan for marking the route for wayfinding purposes (i.e., informational sign at Florence Kuipers Park, directional signs in town). Consider allowing businesses to advertise on any wayfinding signs to help offset the cost of their manufacture, installation and maintenance.
- D. Help the Business Improvement District publicize the route through the media and on the municipal, business district and WCMCC websites. Assist in updating publicity information as new services and amenities are developed downtown and as canal preservation projects are finished.

Time Frame and Milestones:

A-B. Complete in conjunction with Project Strategy 10g.

C-D. Complete within 2 years.

Costs:

Initial: \$3,000 (\$50/hour x 40 hours + \$25/hour x 40 hours) for coordination
\$2,000 for informational signage at Florence Kuipers Park

Operational: \$1,000 annually (\$50/hour x 10 hours)

Recommendations : *greenway segments*

Funding Sources:

- Local businesses in Hackettstown
- Town of Hackettstown
- Warren County

Benefits:

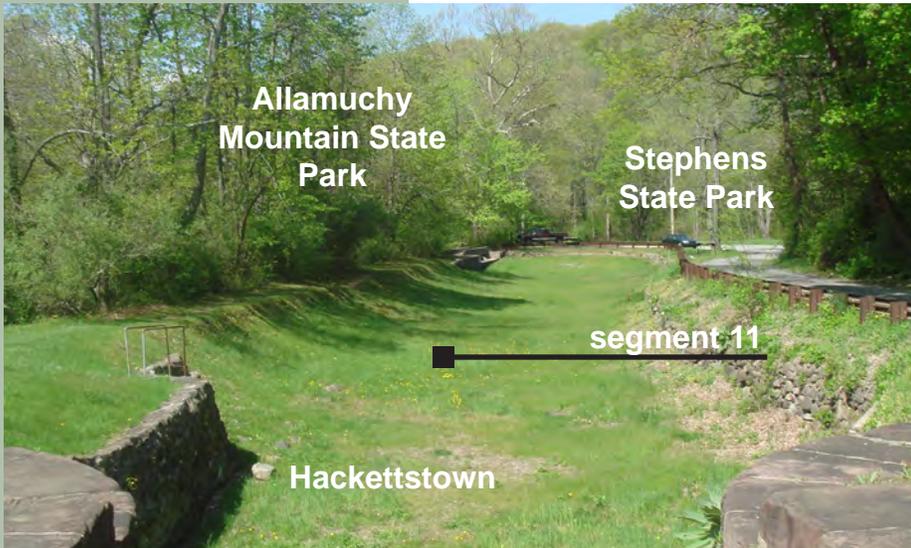
Potential heritage tourism revenue from greenway user patronage of Hackettstown businesses.
Improved greenway user access to support services in Hackettstown.

Suggested Implementation Agencies:

- Hackettstown Business Improvement District
- Hackettstown Municipal Officials
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway segments*

Segment 11: Florence Kuipers Park to Saxton Falls - 4.0 miles



The intensity of urban development in Hackettstown along the western end of the canal is balanced by the rural wooded environment at its eastern end in Allamuchy Mountain and Stephens state parks. This contrast makes the restoration of this segment important in connecting a sizeable population center with the recreational and educational opportunities at this substantial open space area. (See Recommendations Maps 15, 16 and 17 in the Maps section of this report). (The WMC references the features identified in the "Historic Preservation Survey of the Morris

Canal in Warren County, NJ. The index is found in Appendix H)

Significant Features of Segment Eleven

- Sporadic sidewalks along the local roads connecting the east end of Florence Kuipers Park to Main Street and Stiger Street in Hackettstown.
- Lack of a pedestrian and bicycle crossing at the intersection of Roosevelt Street and Route 46. The configuration of this angular and sloping intersection in addition to the relatively high-speed, heavy traffic along Route 46 makes it unlikely that a safe crossing could be provided here.
- The presence of a crosswalk at the intersection of Baldwin and Main Streets (Route 46) and the existing sidewalks extending from this intersection along Main Street into downtown Hackettstown.
- Proximity of the canal to the train station along Stiger Street with service to Newark, Secaucus Junction, Hoboken, and New York City with connections to regional Amtrak service.
- Proximity of Centenary College to the canal and the presence of sidewalks connecting the canal to the train station.
- Obliteration of the canal by Canal Street, associated private residential properties and a recent townhouse development. A detention basin and adjacent tot lot encroach on the canal within the townhouse development.
- A canal-related stone culvert (WMC 24) under Canal Street draining Hatchery Brook
- Presence of the canal prism and towpath within a wooded area behind the homes and apartments on Hamilton and Countryside Drives and behind businesses between Old Allamuchy Road and Route 517.



Watered section of the canal along a trail west of Bilby Road.

Recommendations : *greenway segments*

- Lack of sidewalks within much of the residential neighborhood surrounding East Baldwin Street with the exception of a sidewalk network within the apartment complex along Countryside Road
- Lack of mid-block crossings at Old Allamuchy Road and Route 517.
- Proximity of the canal to the M&M Mars plant, a major employer in the region.
- Obliteration of a portion of the canal by the Towpath Apartment Complex and the presence of a significant length of the canal prism and towpath within a wooded section of this development proposed for future construction.
- Preservation of the canal within county- and state-owned property from the Towpath Apartment complex to Saxton Falls, including a small dirt parking area on the north side of Bilby Road.
- Lack of mid-block crossings at Bilby Road and Route 604.
- There is also a breach in the canal north of Bilby Road caused by a drainage channel.
- An unattractive power line corridor paralleling the canal.
- Archaeological remnants of a lime kiln (WMC 16) approximately 3200' north of Bilby Road.

Improvements to this section of the canal have the potential of greatly enhancing local economic development activities through the interconnection of a towpath trail with the sidewalks, college, train station, businesses and residences in Hackettstown. A connection to Allamuchy Mountain and Stephens state parks provides opportunities for further linkages with the canal town features of Waterloo Village in Sussex County (see Appendix E) and the Whippany River, Black River and Raritan South Branch stream corridors and the communities of East Hanover, High Bridge, Chester and Morristown along Patriots Path in Morris County.



Future crossing at Bilby Road.



Yellow trail markers denote an existing trail in Stephens State Park.

Recommendations : *greenway segments*

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Eleven Strategies Florence Kuipers to Saxton Falls

- 11 a Enhance existing sidewalk system and Route 46 crossing at Prospect Street to extend trail network east of Florence Kuipers Park
- 11 b Encourage pedestrian and bicycle connections between canal and adjacent M&M Mars and residential developments
- 11 c Investigate status of canal preservation associated with Phase 2 of Towpath Apartments development
- 11 d Construct trail connection adjacent to Oak Hill Apartment property from Towpath Apartments to Bilby Road
- 11 e Develop a trailhead and pedestrian crossing at Bilby Road
- 11 f Screen views of developments and power lines
- 11 g Design and install bridge over canal breach east of Bilby Road on state property

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

- highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals
- tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.
- interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.
- provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.
- stimulates the local economy through heritage tourism.
- leverages the value of the canal to support sound land use planning decisions.
- increases public and private support for and involvement in canal preservation efforts.

Recommendation 11a - Enhance existing sidewalk system and Route 46 crossing at Prospect Street to extend trail network east of Florence Kuipers Park

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Connections across Route 46 can be easily made utilizing existing sidewalks, except in a few locations. Heading southeast from the Park, along Harvey Street, intermittent sidewalks area present. Harvey Street terminates at Prospect Street at which point the greenway turns northwest following Prospect. Along Prospect Street sidewalks are also intermittent to Route 46. The character of these streets is such that a road walk is an acceptable alternative to a sidewalk based trail, but efforts should be made to connect disparate sections of sidewalk. Suitable crosswalks are present at Route 46 along both sides of Prospect Street.

Recommendations : *greenway segments*

After crossing Route 46, the greenway utilizes the intermittent sidewalks along Prospect Street to Fifth Street, where one of three routes is available:

1. Turning left on 5th Street, the greenway continues north in the roadway to the end of 5th Street, at its intersection with Countryside Road. From here the greenway would access the canal towpath through the Gethsemane Lutheran Church property. Following the towpath the greenway would travel through several large parcels to Route 517.

Completion of this route requires collaboration with Gethsemane Lutheran Church and several land owners. It also creates potential for opposition from home owners along Countryside Road, whose backyards are located very close to the proposed route.

2. The second alternative route through this area would follow the previous route to the intersection of 5th Street and Countryside Road. At this point the trail would continue northeast on Countryside, around until it meets Old Allumuchy Road. Following Old Allumuchy a short distance to the south, the trail meets with Route 517. At this point it would need to cross 517, turning north for approximately 1,300 feet before rejoining the greenway.

Completion of this route requires much less land owner coordination and can be completed entirely within the public right-of-way. Although little of this route utilizes sidewalks, the residential nature of the surround neighborhood make a road based trail a safe alternative. The most challenging portion of this route would be crossing Route 517 and the short portion of trail which must be located along its length. Installing a crosswalk with signage and lighting can help meet the challenges associated with the stretch of the route along Route 517. The potential to work with M&M Mars to locate the trail on their property would alleviate this issue.

3. The third route option for this area would be to continue on Prospect Street, past 5th Street, to the terminus of Prospect at Oak Street. Here the trail would turn 180 degrees, following Oak Street for a very short distance to Route 517. After crossing Route 517, the greenway would turn north and follow Route 517 north to rejoin the path of the canal.

Similar to option 2 above, this route also requires much less land owner coordination and can be completed almost entirely in the public right-of-way. Also similar to option 2, the greatest challenge confronted by this route is providing a safe portion of trail crossing along Route 517. Again, this issue may be resolved by working with M&M Mars to provide a trail connection on their property.

Recommendation(s):

- A. Identify preferred alternative for connection.
- B. Implement connection with signage and lighting.

Time Frame and Milestones:

- A. Complete within 8 months
- B. Complete within 3 years

Costs:

Initial: Task A \$2,000 (\$50 per/hour x 40 hours)
Task B \$35,000 to \$95,000 depending on crossing improvements and final route

Operational: Does Not Apply

Recommendations : *greenway segments*

Funding Sources:

- Green Acres
- New Jersey Recreational Trails
- US FHWA Transportation Enhancements
- Warren County

Benefits:

Creation of trail connection will allow residential neighborhoods east of Route 46 to access business district in Hackettstown. Connection will provide trail based access to Florence Kuipers Park.

Suggested Implementation Agencies:

- Town of Hackettstown
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 11b: Encourage pedestrian and bicycle connections between canal and adjacent M&M Mars and residential developments

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Strategy:

Encourage pedestrian and bicycle connections between canal and adjacent M&M Mars and residential developments

Project Description:

Located within a small area between Route 517 and Bilby Road are a large amount of potential greenway users, otherwise isolated from recreational opportunities. The close proximity of the M&M Mars facility, Towpath Apartments and the Oak Hill Apartments, represent prime opportunities to provide connections.

Recommendation(s):

- A. Provide connections between greenway, M&M Mars and adjacent residential developments.

Recommendations : *greenway segments*

Time Frame and Milestones:

A. Complete within 7 to 10 years

Costs:

Initial: \$3,000 to \$25,000 depending on connections made

Operational: Does Not Apply

Funding Sources:

- Green Acres
- Mars Volunteer Program
- New Jersey Recreational Trails
- Warren County

Benefits:

Provides access to Hackettstown Business District to additional trail users. Connections provide access to recreational opportunities for communities which can only currently access these opportunities via automobile.

Suggested Implementation Agencies:

- M&M Mars Corporation
- Warren County Morris Canal Committee
- Warren County Office of Land Preservation
- Warren County Planning Department

Recommendation 11c - Investigate status of canal preservation associated with Phase 2 of Towpath Apartments development

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Recommendations : *greenway segments*

Project Description:

During land development approvals for the Towpath Apartments, an agreement was met to provide Warren County an easement through this property roughly along the route of the canal. Although phase one of this community was developed, the easement was associated with Phase Two. Currently the status of this easement is uncertain. It is unclear if the intent of the agreement included provision for public access. Its status and intent should be clarified to facilitate connections to public open space extending north from this property into Stephens State Park.

Recommendation(s):

A. Investigate status of canal preservation associated with Phase 2 of Towpath Apartments development and work with the management company to ensure the easement includes provisions for public access and is recorded independent of phase two construction.

Time Frame and Milestones:

A. Have easement in place within 5 years.

Costs:

Initial: \$6,000 (\$100/hour x 60 hours)

Operational: Does Not Apply

Funding Sources:

- Green Acres
- Warren County

Benefits:

Establishment of easement is critical to completion of this portion of the greenway.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation 11d - Construct trail connection adjacent to Oak Hill Apartment property from Towpath Apartments to Bilby Road

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The portion of the canal directly east of the Oak Hill Apartments is located on property currently in county ownership. The towpath in this area is relatively intact, and creation of trail to Bilby Road can be achieved by clearing brush in the area.

Recommendation(s):

A. Clear brush along towpath to create trail.

Time Frame and Milestones:

A. To be completed in conjunction with recommendation 11e.

Costs:

Initial: \$3,000 to \$5,000

Operational: Does Not Apply

Funding Sources:

- Mars Volunteer Program
- Warren County

Benefits:

Facilities access to Hackettstown for apartment residents. Creates a connection from Hackettstown to Bilby Road trail head and onto Stephens State Park.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Recommendation - 11e: Develop a trailhead and pedestrian crossing at Bilby Road

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

At the point at which the greenway crosses Bilby Road to provide access to Stephens State Park and Allamuchy from the Hackettstown area is an excellent location for a trail head. Recent clearing work by the Warren County Mosquito Control Commission and the conditions along Bilby Road provide ample space for trail head improvements to be located without major clearing work. To limit maintenance responsibilities, trailhead facilities in this area should be limited to parking and an informational kiosk. Should additional facilities be required, they can be added at a future point.

In addition, improvements will be required to provide a safe crossing point at Bilby Road. The bridge over the Norfolk Southern Rail Line, to the east of the proposed trail head, severely limits sight distances in this location. Additionally, traffic on Bilby Road moves at a very high rate of speed. These conditions make this a very dangerous point to cross the road. Adequate measures should be taken per AASHTO standards to ensure crossing is designed safely. This will likely require a flashing yellow light at a minimum, but may also warrant a stop light depending on traffic and projected pedestrian volumes.

If conditions to provide a safe crossing at Bilby Road are deemed unsafe or too expensive, an alternative may be to provide a connection via the bridge over the adjacent rail line. The route under the bridge can be accessed along the road shoulder and the topography under the bridge allows trail users to pass at a grade very close to that of the road surface.

Recommendation(s):

- A. Design and construct a trailhead with limited facilities.
- B. Select desirable crossing location and construct required improvements to cross Bilby Road

Time Frame and Milestones:

- A. Complete within 2 years
- B. Complete within 4 to 6 years

Costs:

Initial: \$25,000 to \$75,000 depending on cost of crossing improvements

Operational: Does Not Apply

Recommendations : *greenway segments*

Funding Sources:

- FHWA Transportation Enhancements
- Green Acres
- New Jersey Recreational Trails
- North Jersey Transportation Planning Authority
- Rails-to-Trails grant programs
- Warren County

Benefits:

Trail head provides suitable location for users, not located directly adjacent to the greenway, a point at which to access the greenway and take advantage of its recreational resources. Improved crossing of Bilby Road reduces potential for pedestrian vehicular conflicts and enhances trail safety in this segment.

Suggested Implementation Agencies:

- New Jersey Department of Transportation
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department

Recommendation 11f - Screen views of developments and power lines

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

Project Description:

The greenway crosses Bilby Road at approximately the same point as a set of high tension power lines. After crossing Bilby Road, the greenway passes under the lines and generally parallels them for three-quarters of a mile. At this point the greenway again passes under the lines as they turn sharply north, and travel away from the greenway.

To preserve the character of the greenway, efforts should be taken to install planted buffers to screen views of the power lines from greenway users. Plant type and exact location of the buffers must be coordinated with the restrictions associated with power line planting to avoid potential conflicts. Installation of these buffers represents an excellent volunteer opportunity from a scouting type organization or other organized group similar to those from the Mars Volunteer Program.

Recommendations : *greenway segments*

Recommendation(s):

A. Identify specific views which detract from greenway experience and work with volunteer groups to install buffer plantings.

Time Frame and Milestones:

A. Install plantings as ongoing volunteer activity.

Costs:

Initial: \$1,000 to \$5,000, although costs may easily be offset if plant material is donated and installed with volunteer labor

Operational: Does Not Apply

Funding Sources:

- Green Acres
- Warren County

Benefits:

Screening of power lines preserves greenway experience for users.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 11g - Design and install bridge over canal breach east of Bilby Road on State property

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

Located approximately three-quarters of a mile north of Bilby Road, a small breach formed draining a watered section of the canal. This breach is the only impediment to completion of this section of trail.

Recommendations : *greenway segments*

Recommendation(s):

A. Install a bridge to cross the breach in the towpath.

Time Frame and Milestones:

A. Complete within 1 year

Costs:

Initial: \$15,000 to \$25,000

Operational: Does Not Apply

Funding Sources:

- Warren County
- New Jersey Recreational Trails

Benefits:

Providing a bridge will allow users of all abilities to take advantage of this portion of the trail and facilitates access to Hackettstown Business District.

Suggested Implementation Agencies:

- New Jersey State Parks
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations : *greenway segments*

Segment 12: Saxton Falls to Waterloo Village - 2.5 miles



This segment travels almost exclusively through public land belonging to Stephens and Allamuchy Mountain State Parks. There are sections of existing towpath with both improved and unimproved trail surfaces. Existing proposed sections of the New Jersey Highlands trail roughly follows the route of the canal for significant portions of this segment. The canal joins the Musconetcong River at Saxton Lake, and exits the lake a few hundred feet to the north, closely paralleling the Musconetcong all the way to Waterloo Village. (See recommendations maps 17, 18 and 19 in the Maps section of this report). (The WMC references the features

identified in the "Historic Preservation Survey of the Morris Canal in Warren County, NJ. The index is found in Appendix H)

Connecting Saxton Falls to Waterloo Village requires crossing Route 80, a major highway. A feasibility study for an above or below-grade pedestrian crossing is recommended.

Significant Features of Segment 12:

- The route of the canal roughly parallels Waterloo Road, forming the roadbed in sections, winding between Stephens State Park to the East and Allamuchy Mountain State Park to the West.
- The NJ Highlands trail, beginning at the southern end of Stephens State Park in Hackettstown, roughly parallels Waterloo Road until it veers to the northwest near the intersection of Waterloo Road and Route 80. This trail can double as part of the greenway in segment 12.
- Several sections of existing towpath, including the area between locks 4 and 5 W, present opportunities to be restored and used as greenway trail.
- South of Saxton Lake the canal parallels the Musconetcong River, entering the Southern end of Saxton Lake and exiting the lake at its northern end. After exiting the lake, the canal shares a route with the Musconetcong River.
- Where Waterloo Road meets Towpath Road, there is a watered section of canal extending to Waterloo Village.

Recommendations : *greenway segments*

- NJDEP has a management plan for Locks 4 and 5 W, and the Canal Society of New Jersey has a feasibility study for the same areas. Both call for connections to be made between Locks 4 and 5.
- The management plan and feasibility study also call for improved towpaths, interpretation, landscaping, and utilities/facilities and restoration of the canal prism.
- The old Elsie's Tavern at the site of Lock 4 W is under contract for restoration between the Canal Society of NJ and NJ State Parks Service. A boat launch is proposed in this area as well as at the site of Lock 5W.
- A break in the canal north of Lock 4 W precludes towpath trail, but the NJ Highlands trail can serve as the greenway until it veers to the Northwest near the intersection of Route 80 and Waterloo Road. A study of alternative routes from this point to Waterloo Village is necessary to determine the best route to Waterloo Village.
- Approximately 2 miles south of Route 80, the greenway leaves Warren County and enters Morris County



Waterloo Village has many buildings that have recently undergone or are undergoing structural and roof repairs under NJDEP's direction, including this canal store. A watered section of the canal in Waterloo Village, located in Morris County, is a powerful interpretive tool to help visitors imagine a typical canal scene.

Recommendations : greenway segments

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Segment Twelve Strategies Saxton Falls to Waterloo Village

- 12 a** Support efforts by New Jersey State Parks to implement the General Management Plan for Saxton Falls Area of Allamuchy Mountain State Park
- 12 b** Support efforts by New Jersey State Parks and The Canal Society of NJ to implement the recommendations of the Feasibility Study of Locks 4W and 5W
- 12 c** Work with New Jersey State Parks to establish towpath trail from Lock 4w to Waterloo Village
- 12 d** Support efforts by New Jersey State Parks and The Canal Society of NJ to revitalize Waterloo Village

Vision Statement
To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.	increases public and private support for and involvement in canal preservation efforts.
12 a							
12 b							
12 c							
12 d							

Recommendation 12a - Support efforts by New Jersey State Parks to implement the General Management Plan for Saxton Falls Area of Allamuchy Mountain State Park

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... increases public and private support for and involvement in canal preservation efforts.

Project Description:

Saxton Falls is an important hub along the Morris Canal Greenway for recreational activities associated with Allamuchy Mountain State Park and the site of the remnants of Lock 5W. Saxton Falls is one of a number of interpretive destinations on the WCMCC semiannual tour of the Morris Canal. The proposed management plan for this site includes restoring Lock 5W to support boat rides, expanding interpretive facilities and increasing visitor support services.

Recommendation(s):

Encourage NJDEP State Parks to improve recreational and educational opportunities at Saxton Falls in accordance with the General Management Plan.

- A. Communicate with NJDEP State Park representatives on a regular basis to monitor the status of management plan implementation activities.
- B. Assist NJDEP State Park representatives in coordinating its management plan recommendations with the results of the Lock 4W and 5W Feasibility Study completed by The Canal Society of New Jersey.

Recommendations: *greenway segments*

C. Assist NJDEP State Parks in obtaining funding for site improvements by providing a letter of support for the project and collaborating on fundraising efforts as appropriate.

Time Frame and Milestones:

A-C. Complete all tasks on an on-going basis.

Costs:

Initial: Does Not Apply

Operational: \$250 annually (\$25/hour x 10 hours)

Funding Sources:

- Warren County

Benefits:

Potential recreational and heritage tourism revenue from improved amenities at Saxton Falls. Additional recreational and educational opportunities and support services at Saxton Falls.

Suggested Implementation Agencies:

- NJDEP State Parks
- The Canal Society of New Jersey
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation 12b - Support efforts by New Jersey State Parks and The Canal Society of NJ to implement the recommendations of the Feasibility Study of Locks 4W and 5W

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... highlights its distinct characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

Project Description:

The Feasibility Study for Locks 4W and 5W The Canal Society of New Jersey outlines an alternative approach for restoring the Morris Canal from Locks 4W to 5W including improvements to the towpath, prism, locktender’s house at Lock 4W, boat launch, all of Lock 5W, a portion of the

Recommendations : *greenway segments*

Lock 4W, interpretive and wayfinding signage, utilities, landscaping and general site conditions. The implementation of the feasibility study recommendations are in keeping with the General Management Plan for Allamuchy Mountain State Park and would provide additional recreational and educational opportunities for the public.

Recommendation(s):

Encourage CSNJ and NJDEP State Parks to work together to improve recreational and educational opportunities at Lock 4W and 5W in accordance with the feasibility study recommendations.

- A. Communicate with CSNJ and NJDEP State Park representatives on a regular basis to monitor the status of feasibility study implementation activities.
- B. Assist CSNJ and NJDEP State Park representatives in coordinating its feasibility study recommendations with the General Management Plan for the Saxton Falls Area of Allamuchy Mountain State Park.
- C. Assist CSNJ and NJDEP State Parks in obtaining funding for site improvements by providing a letter of support for the project and collaborating on fundraising efforts as appropriate.

Time Frame and Milestones:

A-C. Complete all tasks on an on-going basis.

Costs:

Initial: Does Not Apply

Operational: \$250 annually (\$25/hour x 10 hours)

Funding Sources:

- Warren County

Benefits:

Potential recreational and heritage tourism revenue from improved amenities at Locks 4W and 5W. Additional recreational and educational opportunities and support services at Locks 4W and 5W.

Suggested Implementation Agencies:

- NJDEP State Parks
- The Canal Society of New Jersey
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway segments*

Recommendation 12c - Work with New Jersey State Parks to establish towpath trail from Lock 4w to Waterloo Village

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

There is a break in the canal a short distance to the north of Lock 4W precluding access to Waterloo Village via the towpath. An alternative route is provided by means of the Highlands Trail that is coterminous with the Morris Canal in many areas of Allamuchy Mountain State Park but breaks away to the west from the canal at near Lock 4W, rejoining it farther north.

Recommendation(s):

Encourage NJDEP State Parks to investigate the feasibility of reestablishing the towpath to connect to Waterloo Village.

- A. Communicate regularly with NJDEP State Parks and the Canal Society of New Jersey to monitor the status of preservation efforts at Locks 4W and 5W.
- B. Assist NJDEP State Parks in obtaining funding to reestablish the towpath by providing a letter of support for the project and collaborating on fundraising efforts as appropriate.
- C. Offer to participate on a committee established to provide public input on the feasibility study process.

Time Frame and Milestones:

A-C. Complete all tasks on an on-going basis.

Costs:

Initial: Does Not Apply

Operational: \$100 annually (\$25/hour x 4 hours)
\$1,500 (\$25/hour x 60 hours) to participate in feasibility study process.

Funding Sources:

- Warren County

Benefits:

Potential recreational and heritage tourism revenue from an improved connection between lock 4W and Waterloo Village. Additional recreational and educational opportunities along the restored section of towpath.

Recommendations : *greenway segments*

Suggested Implementation Agencies:

- Morris County
- NJDEP State Parks
- The Canal Society of New Jersey
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations 12d - Support efforts by New Jersey State Parks and The Canal Society of NJ to revitalize Waterloo Village

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

Prior to 2007, Waterloo Village was managed by a private foundation that hosted outdoor concerts, weddings and special events on a property with 19 historic buildings and a meeting house. With operations having been turned back over to NJDEP State Parks, more than \$800,000 of structural and roof repairs have been made to the buildings with much more work to be done. The Canal Society of New Jersey has been conducting heritage day activities at Waterloo Village to reinvigorate this regional historic destination. These efforts have attracted more than 12,000 visitors over the last ten years and provide an opportunity for the WCMCC to build its relationship with NJDEP State Parks and the CSNJ by volunteering to help with special events and revitalization activities in exchange for allowing WCMCC to promote the Morris Canal Greenway project at Waterloo Village.

Recommendation(s):

Assist CSNJ in working with NJDEP State Parks to keep Waterloo Village in preserving canal-related resources and keeping the site open to the public for heritage-based recreational and educational activities.

- A. Communicate with NJDEP State Park and CSNJ representatives on a regular basis to monitor the status of revitalization activities.
- B. Provide volunteer assistance with CSNJ activities at Waterloo Village, as needed.
- C. Provide an informational booth at CSNJ events at Waterloo Village to publicize the Morris Canal Greenway and encourage public support for canal preservation activities.
- D. Encourage NJDEP State Parks to revitalize Waterloo Village for the public's enjoyment.
- E. Work with Morris County

Time Frame and Milestones:

A-D. Complete all tasks on an on-going basis.

Recommendations: *greenway segments*

Costs:

Initial: Does Not Apply

Operational: \$2,000 annually (\$25/hour x 80 hours)

Funding Sources:

- 1772 Foundation
- American Express
- National Trust for Historic Preservation
- New Jersey Historical Commission
- Preserve America
- Save America's Treasures
- Tourism Cares for Tomorrow

Benefits:

Potential recreational and heritage tourism revenue from the revitalization of Waterloo Village as a greenway hub. Access to revitalized recreational and educational opportunities and support services at Waterloo Village.

Suggested Implementation Agencies:

- NJDEP State Parks
- The Canal Society of New Jersey
- Warren County Morris Canal Committee

Greenway-Wide Recommendations

Some recommendations for promoting the greenway do not apply to specific segments of the greenway but rather to the greenway as a whole. These “greenway-wide” strategies fall into the following categories: resource preservation; school education; public education; economic development and funding; greenway operations; land use and policy; public participation; and organizational structure. These overarching strategies focus on what is currently being done well to promote the greenway, and what and how promotion of the greenway can be done better.

Resource Preservation Strategies

One of the most critical aspects of the Morris Canal Greenway is the Morris Canal; and the elements in defining the Morris Canal are the physical, historic artifacts of the canal. As noted elsewhere, the canal resources and original path is recognized as the historic thread that binds together a greater greenway. The thread is a critical part of a tapestry that includes many other features and factors.

What sets the Morris Canal Greenway apart from other greenways are the engineering milestones represented by the canal. One of the benefits of the canal as the spine of the greenway is the very civil engineering aspects of a canal which make it an excellent basis for a greenway, including its linear configuration and strict attention to grade changes.

Added to the physical greenway aspect of the canal is the cultural interest it adds to the greenway. Inclined planes, locks, tenders’ houses and other engineering historic resources all add a dimension to the greenway experience.

Adding to the greenway experience, preserving the artifacts of the past for study is critical as an educational tool and as a means of safeguarding the past in respect for our forbearers. Furthermore, historic preservation is recognized as an important component of economic development.

Implementation of historic resource preservation strategies involves several major aspects:

1. Funding for the physical restoration/rehabilitation of historic structures which includes the prioritization of the work as determined by need, historic significance, and available funding (general and restricted site specific as may be determined by a funder). In today’s economy this is a major consideration
2. Implementing the requirements of Federal, State and municipal preservation requirements from the Federal Section 106 reviews, State Historic Preservation Plan, and municipal Historic Preservation Plans as per Municipal Land Use Law (MLUL).
3. Engaging the public and decision-makers in the importance of historic preservation.

Recommendations : *greenway-wide*

Recommendation ID	Project Strategy	Vision Statement						
		To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.
Greenway Wide: Resource Preservation Strategies								
A1	Continue to pursue preservation opportunities as identified in the Greenway Properties Inventory							
A2	Develop a strategy for prioritizing future historic and archaeological preservation projects							
A3	Work with land owners to utilize a variety of preservation methods							
A4	Coordinate agricultural preservation and greenway creation goals and efforts							
A5	Commission project to reassess the Morrell book and map the resources and information within in a GIS database							

Recommendation A1 - Continue to pursue preservation opportunities as identified in the Greenway Properties Inventory

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the country; and

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience.

Project Description:

Preservation activities play a critical role in maintaining the physical historic resources of the canal. This strategy includes acquisition of key historic resources. Ultimately, the significance of the Morris Canal and the unique quality of the Morris Canal Greenway are dependent on the preservation of the character-defining historic resources that make up the canal and associated structures. Many specific projects are noted under Recommendation D.

As noted, acquisition is a direct method by which preservation can be accomplished. Historic preservation does not occur without a broad based public appreciation of the historic resources. For this reason, the public education aspect of the plan should reinforce the cultural and economic benefits of historic preservation.

Historic preservation is not a one-time expenditure of effort. It can include extensive restoration or rehabilitation projects, but historic resources require ongoing maintenance. With ongoing regular maintenance, many of the major costs for restoration or rehabilitation can be

Recommendations : *greenway-wide*

minimized. In determining historic preservation priorities, one must include maintenance of resources as a primary goal.

Acquisition is a tool to be used in coordination with preserving historic resources through zoning and other regulatory methods. Therefore land use policies that protect historic properties may either supplement county funded projects and prohibit activities that will have a negative impact on historic resources.

Recommendation(s):

- A. Concentrate on preserving segments of the canal that interconnect significant open spaces, existing hubs and major population centers.
- B. Preserve remaining segments of the canal as opportunities arise and funding becomes available.
- C. Investigation of local municipalities participating in the Certified Local Government (CLG) program. The CLG program offers municipalities the opportunity to participate more directly in state and federal historic preservation programs. Participation in the CLG program requires that a municipality have a historic preservation ordinance and a historic preservation commission conforming to the specifications of both the Municipal Land Use Law and the National Park Service approved.
- D. Promote the Discover NJ History License Plate Fund for Heritage Tourism with local 501c3 organizations.
- E. Establish relationship with suitable 501c3 organization(s) to apply for funding from the New Jersey Cultural Trust.
- F. Establish a working group focused on municipal historic preservation activities including promoting acquisition of key resources and promoting preservation as noted below:
 - Coordinate activities of historic commissions to work on common issues; develop common nomenclature and establish context for historic resources
 - Determine feasibility of establishing technical assistance for local governments to identify, evaluate, designate, and regulate historic resources as required under the state Municipal Land Use Law (MLUL). The Municipal Land Use Law requires that all historic sites and historic districts designated in local zoning ordinances be based on identifications in the historic preservation plan element of the Master Plan (c. 40:55D-65.1). Thus if a municipality has an ordinance to protect historic places, it must also have a related historic preservation element.
 - Develop Canal-appropriate Design Guidelines for use by municipalities in the Historic Preservation Plans. As with criteria for evaluating historic significance and integrity, design guidelines provide an objective, uniform, and consistent foundation for making decisions on alterations, new construction, or demolition affecting historic properties. State Plan policies recommend that municipalities incorporate into their planning and development review activities design guidelines that protect the character of historic sites, landscapes, and structures; promote adaptive re-use; and enable development and redevelopment that maintain, complement, and enhance scenic and cultural values.

Time Frame and Milestones:

A-F. Make initial contact with municipalities and 501c3 organizations within 1 year to discuss and identify potential collaborative opportunities. Complete one collaborative project within 2 years.

Recommendations : *greenway-wide*

Costs:

Initial: \$5,000 (200 hours of volunteer time @ \$25.00 per hour)

Operational: \$5,000 (200 hours of volunteer time @ \$25.00 per hour) per year + cost of properties.

Potential Funding Sources:

- Discover NJ History License Plate Fund for Heritage Tourism
- New Jersey Cultural Trust
- Preserve America
- The New Jersey Department of Environmental Protection, Natural & Historic Resources, Historic Preservation Office (HPO)

Benefits:

Potential funding from outside sources to preserve key historic resources; economic development via the restoration/rehabilitation of historic resources. Restoration of cultural and historical resources plays a critical role in stimulating the revitalization of communities along the corridor.

Suggested Implementation Agencies:

- Local historical commissions²⁵:
 - Franklin Township Historic Committee
 - Hackettstown Historic Preservation Commission
 - Mansfield Township Historic Preservation Commission
 - Washington Township Historic Preservation Commission
- Local historical societies such as:
 - Hackettstown Historical Society
 - Phillipsburg Area Historical Society
 - Pohatcong Historical & Heritage Society
 - Washington Historical Society
- Local municipalities as extension of the municipality's zoning laws, under MLUL
- New Jersey Historic Preservation Office
- New Jersey Historic Preservation Trust

²⁵ New Jersey Historic Preservation Commission Directory, State of New Jersey Department of Environmental Protection, Division of Parks and Forestry Historic Preservation Office 1999

Recommendations : *greenway-wide*

Recommendation A2 - Develop a strategy for prioritizing future historic and archaeological preservation projects

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

Preservation projects which include capital improvements are the fundamental method by which historic resources are preserved. Determining which historic resources should be protected requiring a consensus-building strategic plan that includes public, private and non-profit partners including distinguishing "protection" policies and "restoration/rehabilitation" projects.

Recommendation(s):

- A. Work with the Canal Society of New Jersey in establishing common priority systems and working on funding for determining preservation prioritization of resources
- B. Review all municipal open space plans to determine which have historic preservation components and lists of historic resources
- C. Review all municipal preservation plans to ensure the Morris Canal is identified. The MLUL states preservation plans must:
 - indicate the location and significance of historic sites and historic districts;
 - identify the standards used to assess worthiness for historic site or district identification; and
 - analyze the impact of each component and element of the master plan on the preservation of historic sites and districts.
- D. Work with state partners and others to implement recommendations of the Allamuchy State Park Saxton Falls Area General Management Plan.

Time Frame and Milestones:

- A-B. Make initial assessment of the status of municipal preservation plans. Complete analysis of priority projects. Complete a priority evaluation system by engaging stakeholders and developing criteria that can be used to evaluate various types of historic resources within 1 year.
- C. Make initial assessment of the status of municipal preservation plans within 1 year. Complete an annotated matrix of individual components of the various plans with key explanations of alternatives to create a model ordinance to be adopted by municipalities along the Greenway within 2 years.
- D. Complete in conjunction with the above recommendation,

Costs:

Initial: \$5,000 (200 hours of volunteer time @ \$25.00 per hour) per year + cost of improvements.

Operational: does not apply

Recommendations : *greenway-wide*

Potential Funding Sources:

- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust
- Warren County Historical and Cultural Commission

Benefits:

Many recent studies indicate that historic preservation projects create jobs, increases property values, conserves resources, supports small businesses, attracts investment, and attracts visitors. Environmental, Cultural, Historical, Social Function, Educational, Health, Recreational, Transportation

Suggested Implementation Agencies:

- Allamuchy State Park
- Canal Society of New Jersey
- Municipal Historic Commissions
- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust
- Warren County Historical and Cultural Commission
- Warren County Historical Society

Recommendation A3 - Work with landowners to utilize a variety of preservation methods

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

Working with the individual landowners is a critical tool in preserving historic resources. Determine appropriate preservation methods from incentives to restrictions.

Recommendation(s):

- A. Continue expanding educational programs relating to the benefits of historic preservation and the significance of the Morris Canal by working with Implementation Agencies to provide information to property owners.
- B. Provide technical assistance to property owners on various sources of public and private funding such as applications for preservation tax credits. The federal Investment Tax Credit (ITC) program provides federal income tax credits for rehabilitation of income producing historic properties. The program administered by the National Park Service through the state Historic Preservation Office.

Recommendations : *greenway-wide*

- Contact the state preservation office and determine who administers the appropriate programs for Warren County
 - Promote the ITC program through Implementation Agencies
 - Develop a list of preservation consultants who can help property owners through the application process.
- C. Work with municipalities to gain certification as Certified Local Governments.
- The Certified Local Government (CLG) program offers municipalities the opportunity to participate more directly in state and federal historic preservation programs. Participation in the CLG program requires that a municipality have a historic preservation ordinance and a historic preservation commission conforming to the specifications of both the Municipal Land Use Law and the National Park Service guidelines.
 - Establish a list of communities that are interested in CLG program who are not currently enrolled.
 - Determine which communities meet the qualifications of having a historic preservation ordinance and a historic preservation commission.
 - Work with communities that have an interest in the program to establish a historic preservation ordinance.
 - Work with communities that have an interest in the program to establish a historic preservation commission.
- D. Establish an “unendorsed” list of preservation trades people available to help restore/rehabilitate historic structures. Contact trade organizations, historic societies, architects and local “better business bureaus” to develop the list. Reach out to potential trades people to determine interest in participating in program. Locate a suitable website to host list.

Time Frame and Milestones

- A. Complete within 1 year and provide education opportunities on an ongoing basis.
- B. Complete within 1 year.
- C. Complete initial assessment within six months and establish ordinance and commission for each municipality within 3 years per municipality.
- D. Complete within 1 year and update list on an ongoing basis.

Costs:

Initial: \$2,500 (100 hours of volunteer time @ \$25.00 per hour) per year + cost of properties.

Operational: : \$5,000 (100 hours of volunteer time @ \$50.00 per hour) per year + cost of properties.

Potential Funding Sources:

- The Garden State Historic Preservation Trust Fund
- The Cultural Trust Capital Preservation Grants
- The Discover NJ Historic License Plate Fund for Heritage Tourism provides small grants to develop and promote visitor ready sites.

Recommendations : *greenway-wide*

- The 1772 Foundation, the Historic Trust is offering Capital Preservation Grants up to \$15,000 to nonprofit organizations for repair and restored projects.

Benefits:

Historic preservation has acknowledged cultural and aesthetic benefits; less known and appreciated are preservation's significant economic effects. As early as 1997, the New Jersey Historic Trust along with the Center for Urban Policy Research and the Regional Science Research Corporation have evaluated the economic impact of historic preservation activities. Many other outside studies exist. One of the most comprehensive is "Measuring Economic Impacts of Historic Preservation. A Report to the Advisory Council on Historic Preservation" by Donovan Rypkema and Caroline Cheong of PlaceEconomics and Randall Mason, PhD of the University of Pennsylvania School of Design, Historic Preservation Program released in November 2011. The categories of economic benefits for historic preservation include jobs, property values, heritage tourism, environmental issues and downtown revitalization.

Safeguarding the heritage of the Morris Canal and the communities through which it flows is a critical part of retaining community sense of place. One critical public benefit is the preservation of culturally significant structures for future generations to enjoy. The National Trust for Historic Preservation has long determined that by insuring the preservation of historically and culturally significant areas, a neighborhood, town, or community is stabilized.

More recently, the environmental benefits of historic preservation are being studied. It is being documented that preserving buildings is an act of sustainable design. Sustainable design is design that has longevity built into it. It is continuous and self-supporting.

Suggested Implementation Agencies:

- Heritage Conservancy
- Musconetcong Watershed Association
- North Jersey Resource Conservation & Development
- The Canal Society of New Jersey

Recommendation A4 - Coordinate agricultural preservation and greenway creation goals and efforts

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Project Description:

Coordinate historic preservation, land conservation and farmland protection activities to maximize the protection of the various cultural, natural and scenic resources that define the corridor. While each program involves different goals, they can overlap in significant ways. Efforts should be made to call attention of additional values that can be preserved through agricultural preservation and greenway protection. Many historic resources are located on large tracts of farmland or land with significant natural resources. The purchase of development rights through land conservation

Recommendations : *greenway-wide*

or farmland preservation can help support historic preservation of the resources. Protection of rural land for agricultural viability is significant to protect land for agricultural purposes, but a key element to preserving rural character is preserving the historic resources on the land.

Recommendation(s):

- A. Establish a working relationship with Green Acres Program, local land trusts and similar organizations.
 - Produce a calendar of deadlines for various funding programs that can be distributed to all group members
 - Circulate program guidelines and applications to all group members
- B. Work specifically with the Green Acres Musconetcong River/Pohatcong Creek Greenway project.
- C. Hold a symposium on the benefits and methods of historic preservation as part of agricultural preservation and natural resource protection as part of either existing Open Space and Historic Preservation conferences or on a county-wide basis.

Time Frame and Milestones:

- A and B. Conduct on-going working group sessions
- C. Complete a symposium within 1 year

Costs:

Initial: \$2,500 (100 hours of volunteer time @ \$25.00 per hour).
\$2,000 materials and costs for symposium.

Operational: Does Not Apply

Potential Funding Sources:

- Local land trusts
- New Jersey Green Acres program

Benefits:

The concepts of historic preservation and agricultural preservation are interrelated in much of Warren County. The majority of farms in the region have historic resources at their core. These farmsteads typically are not included in agricultural preservation activities, but complement the rural nature that voters have time and time again indicated are important aspects in their communities. Certainly, the direct relationship between agricultural preservation and historic preservation is when easements are purchased, property owners use the funding to maintain or restore historic resources. Historic farm buildings are also given context by being surrounded by preserved agricultural land.

Agritourism is a combination of two important New Jersey industries, agriculture and tourism. The American Farm Bureau Federation approved a good working definition of agritourism in 2004: "Agritourism refers to an enterprise at a working farm, ranch or agricultural plant conducted for the enjoyment of visitors that generates income for the owner. Agricultural tourism refers to the act of visiting a working farm or any horticultural or agricultural operation for the purpose of enjoyment, education, or active involvement in the activities of the farm or operation that also adds to the economic viability of the site." Historic farm buildings with their ability to convey a sense of the past are critical in agritourism.

Recommendations : *greenway-wide*

Suggested Implementation Agencies:

- Green Acres program
- Heritage Conservancy
- Musconetcong Watershed Association
- North Jersey Resource Conservation & Development

Recommendation A5 - Commission project to reassess the Morrell book and map the resources and information within a GIS database

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

Published in 1983, the "Historic Preservation Survey of the Morris Canal in Warren County, New Jersey" by Brian H. Morrell is the definitive guide for the Morris Canal in Warren County. Much has changed in the 30 years since its publication and a revised detailed assessment of the resources would be beneficial.

Recommendation(s):

- A. Engage the Canal Society of New Jersey to develop a common list of key properties for preservation.
- B. Apply for planning grants through the state Historic Preservation Office, National Trust for Historic Preservation or other foundations
- C. Create an RFP and associated Scope of Services and seek financial support within 2 years.

Time Frame and Milestones:

A-C. The process by which the Morrell book can be made interactive and timely is through both revisiting all of the sites to assess their changes in thirty years and to make the information more useful by using modern GIS tools. Because of the exhaustive nature of the original work, and any comprehensive updating and revision, this would appear to be a major undertaking involving time, travel and various skill sets. The first step would be creating a scope of work that would outline the final project and describe the various tasks required. This milestone could be completed within one year. Once the scope of work has been completed, the task list can be used to create an estimate of the time required to complete this work. The very size of the project suggests that the county would go through the RFP process to pick the appropriate consultant team to complete the project. The RFP should be completed by the end of year 2.

Recommendations : *greenway-wide*

Costs:

Initial: \$2,500 (100 hours of volunteer time @ \$25.00 per hour)

Operational: \$40,000 (800 hours of professional hours @ \$50.00 per hour)

Potential Funding Sources:

- National Trust for Historic Preservation
- New Jersey Office of Historic Preservation
- The Canal Society of New Jersey
- Warren County Historical and Cultural Commission
- Warren County Morris Canal Committee

Benefits:

The Morrell book is the most comprehensive work on the details of the Morris Canal. The recordation of the canal as it existed in 1983 provides educational benefits to those interested in the Morris Canal as well as providing context for canals on a broader scale. It provides a detail record of operations and activities that no longer exist and would otherwise be lost. An update to that work would provide an excellent case study on historic preservation and how structures survive, deteriorate or are destroyed through the passage of time. By recreating this book, the canal will be reintroduced to entire new generation. While focusing on the physical aspects of the canal, it opens the door to understanding the cultural aspects of canal life in the 19th and 20th centuries.

Suggested Implementation Agencies:

- National Trust for Historic Preservation
- Historic preservation programs at area colleges and universities
- Local historical societies such as:
 - Hackettstown Historical Society
 - Phillipsburg Area Historical Society
 - Pohatcong Historical & Heritage Society
 - Washington Historical Society
- New Jersey Office of Historic Preservation
- The Canal Society of New Jersey
- Warren County Historical and Cultural Commission
- Warren County Historical and Genealogical Society

²⁶ Morris Canal Greenway. <http://morriscanal.org/>

²⁷ The Canal Society of New Jersey. <http://www.canalsocietynj.org/>

²⁸ National Canal Museum. http://www.canals.org/educators/My_Curriculum

²⁹ New Jersey Department of State, Historical Commission, New Jersey History Partnership Project. <http://njhistorypartnership.org/>. Click on "Enter," then "Market Revolution," then "Transportation" to access this information.

³⁰ A Full Hand. Thomas F. Yezerski, author and illustrator. Farrar, Straus & Giroux. 2002.

³¹ <http://www.nps.gov/nr/twhp/profdev.htm>

³² <http://www.nps.gov/nr/twhp/authors.htm>

Recommendations : *greenway-wide*

School Education Strategies

Educational programs for students, in collaboration with local schools, instill a greater understanding of the importance of the Morris Canal in the historical development of Warren County and encourage involvement in future preservation efforts. Warren County possesses a variety of artifacts, publications and other materials that could be used to improve the existing curriculum in the schools through an in-depth study of the Morris Canal. Other individuals and history organizations have also developed a number of canal-based educational tools. Examples of these resources include, but are not limited to, publications and website content produced by the Warren County Morris Canal Committee (WCMCC)²⁶ and the Tales the Boatmen Told and related Famous Tiller Sharks video inspired by Jim Lee, Sr. in the 1960's and 1970's from interviews with senior citizens who worked or lived on the canal in their youth. Since these resources have never been completely inventoried, local educators are not fully aware of the wealth of resources potentially available to them.

To engage school students in learning about the Morris Canal, the WCMCC should work with the Warren County Department of Education to enhance the existing curriculum to better educate its young citizens and help groom the next generation of canal preservationists. Efforts should be made to utilize existing educational resources as a model for enhancing the curriculum, rather than starting from scratch. It is suggested that the following resources, among others, should be reviewed as part of the curriculum development process:

- The Canal Society of New Jersey²⁷ offers Morris Canal photographs, maps and reports through its website.
- The National Canal Museum has published two curriculum guides in conjunction with the National Science Foundation, called Building America's Canals and the Science and Technology of Canals.²⁸ The National Canal Museum's website includes an interactive game that requires users to figure out how to properly operate a canal lock.
- The New Jersey Historical Commission has an interactive, multimedia website called the New Jersey History Partnership Project which includes information on the Morris Canal.²⁹
- Local author, Thomas Yeserski, has published a children's book about the Morris Canal entitled *A Full Hand*³⁰ that describes the journey of nine-year-old Asa as he and his family steer a canal boat from Phillipsburg to Jersey City.
- The National Park Service provides heritage educational services through its Teaching with Historic Places³¹ professional development and training program. The program includes access to technical bulletins, model lesson plans, videos and other resources over the internet, in addition to workshops and conference sessions. An "author's packet" offers additional guidance on writing lesson plans using the program's recommended format. Educators may "submit a proposal for a lesson plan based upon a National Register property using this recommended format. If the proposal is accepted, National Park Service staff will provide guidance as it is being developed, arrange for it to be reviewed by education and subject matter experts, and finalize the lesson for inclusion in the National Park Service's online national series."³²
- The Delaware & Lehigh National Heritage Corridor (DLNHC) has created a Tales of the Towpath curriculum for schools already being used by 32 elementary schools in 10 school districts in Eastern Pennsylvania. This curriculum is based on an illustrated children's storybook of the same name written by DLNHC's Outreach Coordinator. "The curriculum arrives at participating schools in reproduction 19th century ship trunks. Each trunk contains an inventory of items representative of 19th century life along the canals and in coal towns. Teachers implementing the curriculum are trained by DLNHC at required Pennsylvania Act 48 training sessions."³³

³³ Tales of the Towpath: Adventures Along the Lehigh & Delaware Canals. Dennis Scholl, author and illustrator.

Recommendations

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Project Strategy

Greenway Wide: School Education Strategies

- B1 Conduct an inventory of available artifacts and materials (printed, digital, etc.) preserved by Warren County and the WCMCC applicable for educational purposes
- B2 Meet with the Warren County Department of Education staff to develop a strategy for improving canal related curriculum
- B3 Develop and implement a canal based curriculum for schools in collaboration with others

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for and involvement in canal preservation efforts.

B1							
B2							
B3							

Recommendation B1 - Conduct an inventory of available artifacts and materials (printed, digital, etc.) preserved by Warren County and the WCMCC applicable for educational purposes.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

The county possesses a number of artifacts and other materials that could be used for educational purposes, but a complete inventory of these items does not exist. An understanding of the quantity, scope and condition of these items would be useful in determining whether they could serve as teaching tools on a permanent or rotating/temporary basis.

Recommendation(s):

Develop a database of the artifacts and materials in county ownership as follows:

- A. Develop a worksheet that can be used to easily record the information which follows in this recommendation, for each item while conducting the inventory in the field. Consult local, county and state historic preservation agencies for advice in designing the content and format for the worksheet. Test out the worksheet on a diverse sample of items to check its appropriateness and modify as needed.

Recommendations: *greenway-wide*

- B. Identify the various locations where artifacts and materials are currently stored to facilitate future retrieval.
- C. Identify the items housed at each location categorized by type (i.e., books, paintings, photographs, artifact, models, displays, etc.). Be consistent in the convention used to name various items in order to compare the collections located at the different storage areas.
- D. Quantify the number, condition, size and date of each item and any other pertinent physical characteristics. In the case of printed materials (books, brochures, articles), also note the author, publisher, sale price and any copyright restrictions. Photograph the items for reference purposes as desired.
- E. Make a note of any items that are NOT in the county's possession that may have potential educational value for reference.
- F. Assemble the completed worksheets into a notebook for record keeping purposes and consolidate the results in a computer database.
- G. Prepare a fact sheet summarizing the extent of the collections for use in working with educators.
- H. Complete worksheets for all new items obtained and update the database and fact sheet accordingly.

Time Frame and Milestones:

- A-G. Complete in 3 years
- H. Perform on an on-going basis.

Costs:

Initial: \$45,000 to complete Tasks A through G

Operational: \$5,000 annually to perform Task H

Potential Funding Sources:

- New Jersey Historical Commission
- New Jersey Historic Trust
- National Trust for Historic Preservation
- Private Corporations/Foundation

Benefits:

Indirect economic benefits can be derived from obtaining a better understanding of the available resources that could be incorporated into educational activities for the public as well as school students, thereby enhancing heritage tourism programs.

Suggested Implementation Agencies:

- Warren County Cultural and Heritage Commission

Recommendations: *greenway-wide*

- Warren County Morris Canal Committee (in conjunction with local historic preservation groups, the Highlands Project and/or volunteers)
- Warren County Planning Department

Recommendation B2 - Meet with the Warren County Department of Education staff to develop a strategy for improving canal related curriculum.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

The educators at the focus group session recommended that the county attend the monthly roundtable meetings of county and local district school officials to discuss the idea of enhancing the existing canal-related curriculum and solicit their support in completing this project. The best way to insure that teachers will utilize the proposed canal curriculum with their students is to involve them in the design of the curriculum.

Recommendation(s):

Engage county and local district school officials in developing a strategy for improving canal related curriculum in the public schools.

- A. Contact the Warren County Department of Education to give an overview of the project, request assistance, and discuss the best approach for presenting the project to educators at its monthly roundtable meeting.
- B. Prepare materials (handouts, PowerPoint, etc.) to be used in presenting the project to educators at the roundtable meeting.
- C. Present the project at a roundtable meeting and continue attending roundtable meetings to develop the strategy for enhancing the canal related curriculum.
- D. Summarize the strategy in writing and request the endorsement of the project by county and local school district officials.
- E. Meet annually with Warren County Department of Education to re-evaluate and modify the strategy as needed.

Time Frame and Milestones:

- A-D. Complete within 5 years
- E. Perform on an on-going basis.

Recommendations: *greenway-wide*

Costs:

Initial: \$15,000 to complete Tasks A through D

Operational: \$1,000 annually to perform Task E

Potential Funding Sources:

- New Jersey Department of Education (website provides a list of current grant programs and links to many other educational project funders)
- New Jersey Historical Commission (project and mini-grants)
- PSEG Foundation (focusing on math/science/engineering programs)
- Warren County

Benefits:

Potential revenue from students and their families utilizing the canal for educational and recreational purposes and recommending exploration of the canal to visitors. Continued financial support for canal preservation efforts resulting from increased awareness of the Morris Canal as a community asset. Improved student education through the integration of a variety of subjects resulting in a more knowledgeable public. Teaching children about the canal also promotes the greenway to the local population.

Suggested Implementation Agencies:

- Local school teachers
- Warren County Department of Education
- Warren County Morris Canal Committee

Recommendation B3 - Develop and implement a canal based curriculum for schools in collaboration with others.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

Using the strategy developed in B2 above, a curriculum will be designed and adopted for use by local school districts in Warren County to improve history education in accordance with state academic standards. The project will involve establishing a partnership with various members of the academic community in order to maximize success and minimize duplication of effort.

Recommendation(s):

Recommendations: *greenway-wide*

Create an integrated, multi-disciplinary curriculum for school students featuring the Morris Canal.

- A. Establish an educational working group in collaboration with the Warren County Department of Education, interested local school teachers, and other canal history educators to complete the curriculum enhancement project.
- B. Host a tour of the canal for the members of this working group to help orient them to existing canal resources and the 25-Year Action Plan goals, possibly a modification of the biannual canal tours.
- C. Research and evaluate existing educational resources and approaches used by Warren County school districts and other organizations involved in teaching canal history. Identify which aspects of these programs would be most appropriate for inclusion in the new Morris Canal curriculum.
- D. Develop and implement the new Morris Canal curriculum. This work will most likely involve the following steps, among others:
 - Determine the educational goals of the curriculum in relationship to New Jersey's Core Academic Standards and county/local school district priorities.
 - Develop materials and activities to support classroom studies, field trips, homework assignments, etc. Utilize available artifacts and materials identified in B1 above as appropriate.
 - Conduct a test run of the curriculum to refine the program based upon feedback.
 - Produce and distribute the curriculum to the school districts whose area is transected by the greenway and provide teacher training, including a tour of the canal as appropriate.
 - Include an evaluation form to allow teachers to provide feedback regarding future curriculum improvements.
- E. Revise the curriculum as New Jersey's Core Academic Standards change and as new educational opportunities become available as a result of implementing the 25-Year Action Plan.

Time Frame and Milestones:

A-D. Complete within 5-7 years.

E. Perform on an on-going basis.

Costs:

Initial: \$40,000 to complete Tasks A through D

Operational: \$5,000 annually to perform Task E

Potential Funding Sources:

- New Jersey Department of Education (website provides a list of current grant programs and links to many other educational project funders)
- New Jersey Historical Commission (project and mini-grants)
- PSEG Foundation (focusing on math/science/engineering programs)
- Warren County

Recommendations: *greenway-wide*

Benefits:

Potential revenue from students and their families utilizing the canal for educational and recreational purposes and recommending exploration of the canal to visitors. Improved student education through the integration of a variety of subjects resulting in a more knowledgeable public.

Suggested Implementation Agencies:

- Local school teachers
- Representatives of the:
 - New Jersey History Partnership Project
 - Delaware & Lehigh National Heritage Corridor
 - National Canal Museum
 - National Trust for Historic Preservation
- Warren County Department of Education
- Warren County Morris Canal Committee

Recommendations: *greenway-wide*

Public Education Strategies

The process of engaging the public in educational activities about the Morris Canal requires an ability to pique a person's interest to the extent that he or she chooses to take time out of their otherwise busy lives to have fun learning something new. Once you have his or her attention, the activities must communicate information of value to that person in a way that is both interesting and enjoyable in the allotted time. Individuals who find that the educational adventure is meaningful are more likely to talk to others about their experience, thereby broadening public awareness of the canal and encouraging more people to take part in similar educational activities in the future.



Figure 5-7: Interpretive triangle³⁶

Successful educational programs master the art of interpretation, defined by the National Association for Interpretation as "a communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource."³⁴ Interpretation is not simply the mere presentation of facts but the presentation of accurate information in a manner that inspires an audience to care about the Morris Canal so that it might care for³⁵ the preservation of the canal. Effective interpretation requires an intimate knowledge of the canal, an understanding of the particular audience and the utilization of the appropriate techniques needed to facilitate a deeper understanding and appreciation for the Morris Canal as a past and present day asset to society. (See Figure 5-7).

Those individuals responsible for interpreting the canal's resources should be able to relate the existing physical features of the canal to the less obvious environmental resources, historical forces, technological know-how and social values that helped to shape it. They should recognize that people absorb information in different ways using different senses (seeing, hearing, touching, smelling, tasting) and that the best learning experiences appeal to multiple senses and include opportunities for participants to interact with the learning environment, each other and an interpreter.³⁷

Given the vast amount of information about the Morris Canal, it is important to design educational activities around a specific theme or set of facts to organize the information and concepts to be presented around a single, clear message for the audience. The history of the canal is most closely tied to the "New Jersey at Work" interpretive theme developed by the New Jersey Heritage Task Force as part of a statewide heritage tourism plan. This theme is intended to highlight the

³⁴ Brochu, L. and Merriman, T. Personal Interpretation. National Association of Interpretation. Singapore. 2002.

³⁵ Foundations of Interpretation, Curriculum Content Narrative. National Park Service, U.S. Department of Interior. Washington, D.C. March 1, 2007. Page 1.

³⁶ Ibid

³⁷ Metcalf, Thomas. (1997) Listening to your clients, Life Association News, 92(7) p16 – 18. A University of Texas study revealed that we remember 10 percent of what we read, 20 percent of what we hear, 30 percent of what we see, 50 percent of what we see and hear, 70 percent of what we say and 90 percent of what we do and say.

Recommendations: *greenway-wide*

“industry and creative innovation that shaped New Jersey and helped transform the world.”³⁸ However, the story of the Morris Canal is multi-faceted, with elements that transcend all aspects of society. In order to fully explore all of these issues, the National Park Service has developed a thematic framework that can be used to organize interpretive programs according to eight different categories of information:

- Peopling Places (i.e., migration, family life, ethnicity, community development)
- Creating Social Institutions and Movements (i.e., clubs, reform movements, religion, recreation)
- Expressing Cultural Values (i.e., education, intellectual currents, arts, literature, media)
- Shaping the Political Landscape (i.e., government, political ideas, protests)
- Transforming the Environment (i.e., manipulation, adverse consequences, preservation)
- Developing the American Economy (i.e., extraction, production, distribution, consumption, transportation, workers and work culture)
- Expanding Science and Technology (i.e., experimentation, invention, technological applications)
- Changing Role of the United States in the World Community (i.e., commerce, international relations, expansionism, immigration)

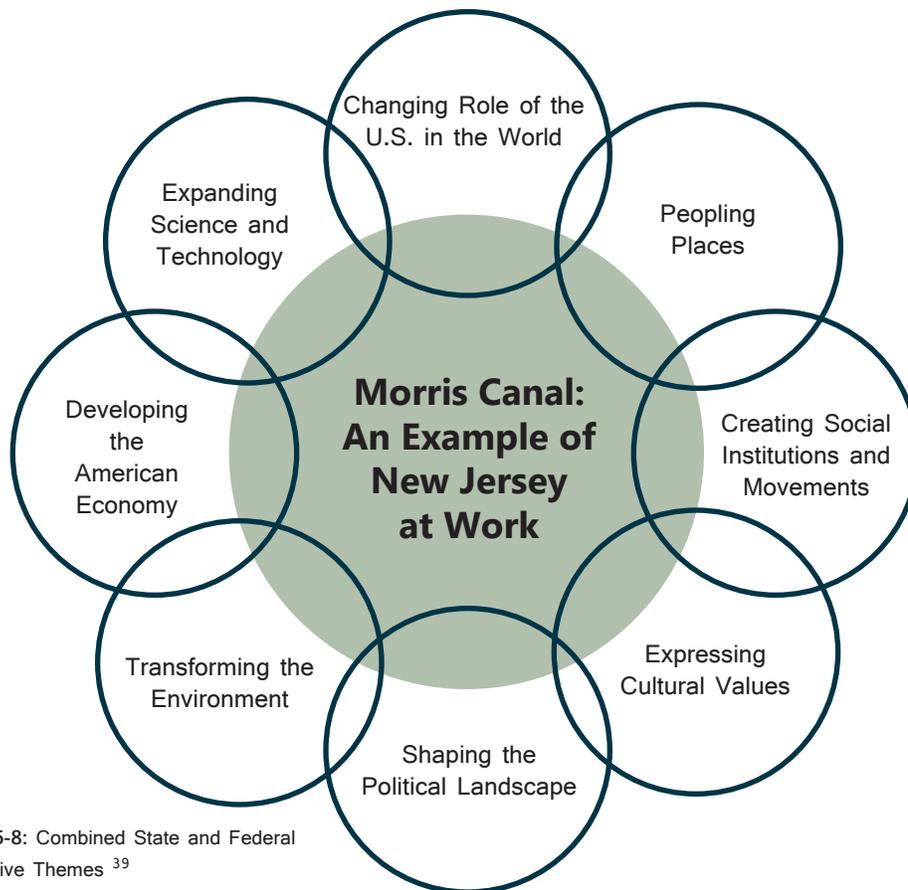


Figure 5-8: Combined State and Federal Interpretive Themes ³⁹

³⁸ Linking Our Legacy to a New Vision, A Heritage Tourism Plan for New Jersey, Executive Summary. New Jersey Heritage Tourism Task Force. Trenton, NJ. June 2010. Page 7.

³⁹ History in the National Park Service, Themes and Concepts. National Park Service, Organization of America Historians, American Historical Association, and the National Coordinating Committee for the Promotion of History. http://www.nps.gov/history/history/hisnps/NPSThinking/themes_concepts.htm

Recommendations : *greenway-wide*

These state and federal interpretive approaches can easily be combined and used to enhance educational activities offered by the WCMCC as shown in Figure 5-8. Examples of the kinds of stories about the Morris Canal that can be highlighted using this approach are summarized in Table 5-5.

The WCMCC is well equipped to speak to history buffs about the nuts and bolts of the Morris Canal. In addition to the group’s collective knowledge, there are a collection of teaching tools available to support the storytelling process including working models, replicas, displays, exhibits, artwork, printed materials, photographs, videos, and a website – as well as the physical remains of the canal that have already been preserved. The challenge is to assemble the information and tools in a manner that will captivate a wide variety of audiences, including those totally unfamiliar with the canal and its history, and provide accurate information in an authentic way, not one that inappropriately glamorizes or commercializes the canal’s past.

Interpretation can occur as part of a self-directed activity, where the audience accesses the educational information on its own and explores it at its own pace and to its desired depth, or as part of a guided program led by an interpreter who presents pre-planned content according to a certain schedule. Even though the WCMCC already provides both guided and self-directed educational activities, there are a number of improvements that can be made to its interpretive programs.

Table 5-5: Thematic Framework for Interpretation

Interpretive Theme	Morris Canal Stories
Changing the Role of the U.S. in the World	<ul style="list-style-type: none"> • Need for internal transportation system for the movement of goods to capitalize on the world trade market and for self-defense during wartime • Role of canals in building and binding a nation out of 13 colonies
Peopling Places	<ul style="list-style-type: none"> • Impact of the route of the canal on local settlement patterns and place names • Daily life on a canal boat • Demographic characteristics of the canal’s workforce • Job functions associated with operating the canal in relationship to town formation
Creating Social Institutions and Movements	<ul style="list-style-type: none"> • Manner in which visionaries of the day discussed ideas and responded to the needs of society

Recommendations: *greenway-wide*

Interpretive Theme	Morris Canal Stories
Expressing Cultural Values	<ul style="list-style-type: none"> • Use of media by George McCulloch, the 19th Century businessman who founded the canal, to promote it • Folklore and music along the canal • Archaeology as a means to preserve and understand culture
Shaping the Political Landscape	<ul style="list-style-type: none"> • Influence of other canal construction projects in the U.S., especially the Erie Canal • McCulloch’s vision for the canal and his role in lobbying for its construction • Need for legislative action to establish and abandon the canal
Transforming the Environment	<ul style="list-style-type: none"> • Impact of topography on the route of the canal • Natural resources used in the canal’s construction, especially water resources • Availability of raw materials to transport to markets • Affect of weather on canal operation (flooding, freezing) • Sources and uses of energy and fuel
Developing the American Economy	<ul style="list-style-type: none"> • Impact of the canal on the Industrial Revolution • Relationship of New Jersey to major markets in New York City and Philadelphia • Local industries and changes in their productivity before the canal is constructed, during its operation and after its abandonment • Process of raising capital to build the canal, the use of a banking system and the financial success of the canal
Expanding Science and Technology	<ul style="list-style-type: none"> • Scientific principles and logistics associated with the canal’s design • Parts of canal and their function, especially the Scotch turbine • Changes in canal design to adapt to market demands • Key people involved in its design and construction such as James Renwick and Ephraim Beach • Competition from other forms of transportation

Recommendations: *greenway-wide*

Recommendation C1- Continue Current Efforts to Provide and Enhance Interpretive Opportunities

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

Continue hosting biannual bus tours of the canal, operating the museums at Bread Lock Park and Plane 9W, installing interpretive signage and adding information to the website. These educational activities play an important role in making the canal come alive for the public and should be continued.

Recommendation(s):

Maintain successful interpretive programs to teach the public about the Morris Canal.

- A. Record of the number of people participating in these activities in a database to document the success of the programs over time and for use in justifying requests for funding assistance.
- B. Modify existing educational activities as needed to incorporate additional information as new canal preservation projects are completed.
- C. Update the website as needed to include any improvements to existing educational programs.

Time Frame and Milestones:

A-C. Complete on an on-going basis.

Costs:

Initial: This recommendation focuses on continuing existing programs and therefore does not involve any initial costs.

Operational: \$2,000 annually to enhance or modify existing programs.

Potential Funding Sources:

- Warren County

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation C2- Review existing program content in relationship to NPS and NJ historic themes, audience, authenticity, modern day relevance and utilization of different interpretation techniques .

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

An analysis of both existing self-directed and guided programs is likely to reveal opportunities for revitalizing current programs by providing new and complementary information.

Recommendation(s):

Add depth to existing educational activities by incorporating new information in keeping with state and national interpretive goals.

- A. Identify gaps in educational content by comparing the content of existing programs with the NPS and NJ historic themes and interpretation guidelines.
- B. Determine the availability of information and related interpretive materials that could be used to develop programs to fill gaps identified in Task A. Secure access to these interpretive resources for use in enhancing existing programs.
- C. Design, test and implement the program modifications (including interpreter training) based upon the historic theme and available interpretive resources.

Time Frame and Milestones:

A-C. Complete within 6 months.

Costs:

Initial: Tasks A and B = \$4,000 (\$50/hour x 80 hours)
Task C = \$2,000 for each new program (\$50/hour x 20 hours)

Operational: \$0 – Consider offsetting operational costs with public participation fees.

Potential Funding Sources:

- National Trust for Historic Preservation
- New Jersey Historical Commission
- Preserve America
- Save America's Treasures
- Tourism Cares for Tomorrow

Recommendations: *greenway-wide*

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Warren County Planning Department
- Warren County

Recommendation C3- Provide talking points for each educational program to insure consistency in presentation of information.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

An outline of talking points is helpful in organizing the information to be presented in an efficient and interesting way and in training new individuals to become program guides. Educational activities of any kind should be viewed by the WCMCC as an opportunity to promote canal preservation efforts to a "captive audience" and to encourage participants become involved in implementing the 25-Year Action Plan.

Recommendation(s):

Create an outline of information to be presented as part of each educational program.

A. Develop a standardized form to record the talking points and supporting resources for each program, including the following:

- Introductory information (i.e., greeting/welcome, identification of participants, sign-in, orientation items, etc.),
- Logistical information (i.e., agenda for the event, location of restrooms, etc.).
- Key educational points covered during the programs, with references noted.
- Names of handouts distributed.
- Interpretive materials used to reinforce educational concepts (i.e., artifacts, models, displays, photographs, etc.).
- Summary information (i.e., thank you for participation, question and answer period, upcoming events, etc.).
- Support facilities and equipment needed to conduct the event (i.e., projector and screen, electric, tent, bus, rooms, kitchen, etc.).

Recommendations: *greenway-wide*

- B. Ask existing interpreters to complete the form for the programs they conduct on behalf of WCMCC. Modify the standardized form as needed to include all pertinent information
- C. Make sure the talking points for all programs include a request for public support for fundraising purposes.
- D. Utilize the talking points to conduct future programs and train new interpreters. Update the forms as program content is changed.

Time Frame and Milestones:

- A-C. Complete within 1 year.
- D. Complete on an on-going basis.

Costs:

Initial: \$2,500 (\$25/hour x 100 hours)

Operational: \$200 annually (\$25/hour x 4 hours)

Potential Funding Sources:

- Educational Development Grants
- Warren County

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation C4- Develop new program content in relationship to NPS and NJ historic themes, audience, authenticity, modern day relevance and utilization of different interpretation techniques to provide diverse and balanced programming and broaden public support.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Recommendations: *greenway-wide*

Project Description:

The story of the Morris Canal contains a wealth of information on a wide variety of topics, all of which have value and should be interpreted for public enjoyment. For example, a program for the local Chamber of Commerce could focus on the process by which the Morris Canal and Banking Company was established in comparison to today's business practices, while a presentation to meeting of ladies from a Red Hat Society could feature information about the everyday life of a family on a canal boat. An investigation of the self-directed and guided interpretive programs provided by other canal preservation organizations should be included in this assessment for comparison and coordination purposes.

Recommendation(s):

Improve diversity of educational opportunities by developing new programs based upon a wider variety of topics.

- A. Identify gaps in educational content by comparing the topics of existing programs with the NPS and NJ historic themes and interpretation guidelines.
- B. Identify the specific audiences that would be most likely to participate in any new programs based upon the topic to be presented.
- C. Determine the availability of information and related interpretive materials that could be used to develop programs to fill gaps identified in Task A. Secure access to these interpretive resources for use in designing and conducting new programs.
- D. Design, test and implement the programs (including interpreter training) based upon the historic theme, available interpretive resources, and targeted audience.
- E. Reach out to identified audiences to schedule programs.

Time Frame and Milestones:

- A and B. Complete within 3 months.
- C. Complete within 6 months.
- D. Complete within 1 year.
- E. Perform on an on-going basis

Costs:

Initial: Tasks A through C = \$6,000 (\$50/hour x 120 hours)
Task D = \$5,000 for each new program (\$50/hour x 100 hours)

Operational: \$0 – Consider offsetting operational costs with public participation fees

Potential Funding Sources:

- National Trust for Historic Preservation
- New Jersey Historical Commission
- Preserve America
- Save America's Treasures
- Tourism Cares for Tomorrow

Recommendations: *greenway-wide*

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Local historical societies and commissions
- Repositories of canal information and artifacts
- Warren County Morris Canal Committee

Recommendation C5- Develop and implement a training program for individuals responsible for interpretation providing consistent and professional presentations.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

A well-designed program can easily fail if it is haphazardly presented, undermining the reputation of the WCMCC and the public's perception of canal preservation efforts. The proposed training program should not only review the desired educational content but also give guidelines on how to improve public speaking skills, provide hospitality, assess and respond to audience needs and abilities, handle difficult and emergency situations, engage participants during the program, obtain user feedback, and serve as an ambassador who can direct participants to other points of interest in the region.

Recommendation(s):

Establish a process by which individuals, paid or volunteer depending on circumstances, are trained to serve as interpreters along the Morris Canal.

- A. Identify the technical knowledge, interpersonal skills and work ethic needed to serve as an effective interpreter to use as criteria in evaluating potential applicants for an interpreter position. Determine if a background check will be conducted on all potential applicants for an interpreter position.
- B. Research how other organizations provide training for their interpreters or docents.
- C. Develop and implement a training program based upon the results of Tasks A and B to include the following at a minimum:
 - Background information on the WCMCC and its current canal preservation efforts.
 - An overall history of the Morris Canal with key dates/achievements. Talking points to be included in specific educational programs to be conducted by the interpreter.

Recommendations: *greenway-wide*

- Public speaking methods.
- Techniques for understanding the audience and how to adapt educational programs to their specific needs (age group, knowledge level, disability, time available, etc).
- Methods for encouraging participants to complete the user survey.
- Procedures for handling emergencies including safety and first aid.
- Visitor information to promote heritage tourism within the region including upcoming events, nearby destinations, local accommodations, gas/food services, etc.
- Ways to promote continued public support for canal preservation efforts.
- Logistics of interpretive site (access, security, building operations, trash disposal and other maintenance, etc.)

D. Require trainees to participate in an apprenticeship program with an experienced interpreter prior to conducting educational programs on their own.

E. Add information on the WCMCC website regarding opportunities for serving as an interpreter, including a summary of job responsibilities and the method of applying for an interpreter position.

Time Frame and Milestones:

A and B. Complete within 6 months.

C and D. Complete within 1 year.

E. Complete within 1 month.

Costs:

Initial: \$16,000 (\$50/hour x 320 hours)

Operational: Budget \$2,000 for each interpreter trained.

Potential Funding Sources:

- New Jersey Historical Commission
- Preserve America
- Save America's Treasures
- Tourism Cares for Tomorrow

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Existing and volunteer interpreters
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation C6- Evaluate allowing public participation in archaeological investigations as a hands-on learning experience.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

Despite the sensitivity involved in preserving archaeological sites during the investigation process, the public can find the prospect of uncovering the “hidden treasures” of the Morris Canal fascinating. Consideration should be given to allowing members of other canal organizations, historic societies and commissions and college students in archaeology programs have access to the dig site. At a minimum, the results of any archaeological investigations should be shared with the public through post-excavation speaking engagements or other media outlets.

Recommendation(s):

Share the process and outcome of archaeological investigations with the public.

A. When planning an archaeological dig, require that the archaeologist document the excavation process and findings for use in public educational activities using one or more of the following techniques:

- Short videos of the archaeological team explaining the purpose of the excavation, investigation tools, and key findings at various stages in the dig (including time lapse photography as appropriate).
- A PowerPoint presentation containing photographs of key resources uncovered during the excavation with captions in lay terms.
- A fact sheet summarizing the purpose and results of the investigation.

B. Work with the archaeologist to determine the feasibility of allowing public access to the excavation during the digging process.

- Determine the specific conditions under which the public would be allowed to only view the excavation during the digging process (i.e., during what stage of the dig, viewing distance, maximum number of viewers at any one time, which types of individuals should be allowed to view the dig and why, etc.). Implement measures to facilitate public viewing.
- Determine the specific conditions under which the public would be allowed to participate in the excavation process (i.e., during what stage of the dig, age and skill set of participant, liability waiver, equipment needed, which types of individuals should be allowed to view the dig and why, etc.). Implement measures to facilitate participation.

C. Ask the archaeologist to present the results of the dig as part of a speaking engagement, radio or television news broadcast or other public event.

D. Determine the extent to which artifacts from the excavation can be shown to the public as part of hands-on learning activities or displays. Implement measures to utilize these artifacts as desired.

Recommendations: *greenway-wide*

Time Frame and Milestones:

- A-B. Complete based upon the timetable for conducting the archaeological investigation.
- C. Complete within 1 month of the end of the dig.
- D. Complete within 6 months of the end of the dig.

Costs:

Initial: This recommendation focuses on providing educational activities on an operational basis only as part of archaeological investigations initiated separately.

Operational: Budget of \$5,000 per dig to cover cost of suggested educational activities.

Potential Funding Sources:

- National Trust for Historic Preservation
- New Jersey Historical Commission
- New Jersey Historic Trust
- Warren County Open Space Trust Fund

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Archaeologists retained to perform the digs
- Individuals selected to view or participate in the excavation process
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation C7- Contact local libraries and bookstores to arrange readings and signings by canal book authors .

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Recommendations: *greenway-wide*

Project Description:

Libraries and bookstores provide an additional venue for educating the public about the canal and can occur within a much larger geographical area than just Warren County.

Recommendation(s):

Encourage exploration of the Morris Canal through reading.

- A. Identify books and videos about the Morris Canal that are suitable for various age groups and levels of interest.
- B. Prepare a list of recommended readings and films to be included on the WCMCC website.
- C. Identify and contact local public and college libraries and private bookstores to determine how many of the recommended books and films are readily available for borrowing or purchase from them and to determine their willingness to host a book reading, signing or viewing. At a minimum, assist local libraries in adding the recommended readings and films to their collections. If possible, encourage local bookstores to offer the books and films for sale.
- D. Contact the book authors and film producers to determine their willingness to participate in a book reading, signing or viewing and to discuss the logistics (time, fee, content, format, etc.) for such an event.
- E. Arrange for readings, signings and viewings based upon the results of the tasks above.

Time Frame and Milestones:

A-D. Complete within 3 months.

E. Time frame as determined by results of previous tasks.

Costs:

Initial: \$4,000 (\$50/hr x 40 hours/week x 2 weeks)

Operational: Varies, based upon fees charged and cost of books.

Funding Sources:

- New Jersey State Council on the Arts
- Private corporations

Benefits:

Potential income generated from public participation in educational canal events for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Recommendations: *greenway-wide*

Suggested Implementation Agencies:

- Book authors and film producers
- Local libraries and bookstores
- Volunteers
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation C8- Offer a mini-grant to local historical societies and municipal historical commissions to develop educational programs about the role of the canal in their communities.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... increases public and private support for and involvement in canal preservation efforts.

Project Description:

Historical societies and commissions can be valuable partners in disseminating information about the Morris Canal to local residents. These organizations can use mini-grants to create displays at their society headquarters or municipal buildings, develop a series of canal history articles for newsletters distributed to the public, conduct a walking tour, bring in speakers or sponsor other canal-related educational programs.

Recommendation(s):

Establish a funding program to help historical societies and commissions design and implement educational programs about the Morris Canal.

- A. Contact local historical society and commission representatives to understand and/or assess:
 - Their current knowledge of the Morris Canal and the extent of their collection of Morris Canal historical resources.
 - How they develop and implement new educational activities.
 - How information about the Morris Canal could best be integrated into existing educational programs or used to develop a new program(s) - AND - their organization's willingness and capacity to feature the Morris Canal in such programs.
 - How the programs could be developed to highlight the unique attributes of the canal in their community. The level of financial resources needed to incorporate the Morris Canal into their educational offerings.
- B. Attend existing educational programs as needed to evaluate their format, content, suitability, etc.
- C. Document the findings in a written report.
- D. Prepare guidelines and an application for the historical societies and commissions to use in requesting financial assistance from appropriate funding sources to develop educational activities identified in Task A, obtaining county board/agency approval as required.

Recommendations: *greenway-wide*

E. Meet with representatives of each historical society or commission to present the mini-grant program and encourage their involvement in developing new canal-based educational programs for their constituents.

Time Frame and Milestones:

A-C. Complete within 1 year

D. Complete within 6 months

E. Complete within 1 month

Costs:

Initial: \$8,000 (\$50/hour x 160 hours)

Operational: To be determined based upon number and value of grants disbursed.

Potential Funding Sources:

- To be determined as part of recommendation.

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Local historical societies and historical commissions
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation C9- Offer a mini-grant to local municipalities to develop recreational programs incorporating canal related educational information.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

Some municipalities offer organized recreational activities for their residents, such as summer recreation programs or community day events. A mini-grant program will encourage these communities to develop new ways of helping residents explore the history of the Morris Canal and celebrate canal preservation activities as part of their municipal recreational services.

Recommendations: *greenway-wide*

Recommendation(s):

Establish a funding program to help support the design and implementation of community-sponsored recreational programs featuring the Morris Canal.

- A. Contact local municipal officials to understand and/or assess:
- The existing recreational activities each community offers its residents.
 - How new recreational activities are developed and implemented.
 - How information about the Morris Canal could best be integrated into existing recreational programs or used to develop a new program(s) - AND - the municipality's willingness and capacity to feature the Morris Canal in such programs.
 - How the programs could be developed to highlight the unique attributes of the canal in their community.
 - The level of financial resources needed to incorporate Morris Canal activities into each community's existing recreational programs.
- B. Attend existing recreational programs as needed to evaluate their format, content, suitability, etc.
- C. Document the findings in a written report.
- D. Prepare guidelines and an application for the municipalities to use in requesting financial assistance from appropriate funding sources to develop recreational activities identified in Task A, obtaining county board/agency approval as required.
- E. Meet with representatives of each municipality to present the mini-grant program and encourage their involvement in developing new canal-based recreational and educational activities for their residents.

Time Frame and Milestones:

- A-C. Complete tasks within 1 year
- D. Complete within 6 months
- E. Complete within 1 month

Costs:

Initial: \$8,000 (\$50/hour x 160 hours) for development of mini-grant program

Operational: To be determined based upon number and value of grants disbursed.

Funding Sources:

- To be determined as part of recommendation.

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Recommendations: *greenway-wide*

Suggested Implementation Agencies:

- Local municipalities
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation C10- Evaluate the suitability of new forms of media and technology as an educational and informational tool to promote the canal and related activities.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

With recent advances in computer-based technology, people are gathering information from the internet through their mobile phones, finding places of interest using Global Positioning System devices and reading books using computer tablets, in addition to learning through traditional print, radio and television media. "Outdoor participants ages 25 to 44 use technology to search for information about outdoor recreation more often than participants in other age groups. Sixty-three percent of these adult outdoor participants use technology to search for outdoor information, followed closely by 62 percent of 18 to 24-year olds. That compares to 40 percent of teenagers ages 13 to 17 and only 26 percent of children ages 6 to 12."⁴⁰ The careful use of technology can attract participants to interpretive activities and support self-directed learning when guided tours are not available, without cheapening the overall visitor experience.

Recommendation(s):

Assess the appropriateness of using new forms of media and technology tools to enhance public education efforts.

- A. Develop an abridged version of the WCMCC website content tailored to viewing on mobile devices. (Example: Essex National Heritage Area Trails & Sails SmartPhone Mobi-Site).
- B. Consider developing podcasts to support self-directed activities when guided tours are not available or practical.
- C. Add GPS coordinate information on the location of key canal destinations to the WCMCC website.
- D. Encourage visitors to submit photos and videos of their visits to the canal for posting on the WCMCC website, as appropriate. (Example: North Dakota Tourism RU Legendary Campaign).

⁴⁰ 2011 Outdoor Recreation Participation Report. The Outdoor Foundation. Boulder, CO. Page 36.

Recommendations: *greenway-wide*

- E. Evaluate the suitability of using QR code tags (square black and white patterned boxes similar to UPC codes) in lieu of interpretive signage. By scanning the tags with their SmartPhone's camera, visitors can digitally connect to specially-designed mobile web pages containing information about the canal. (Example: Augusta Canal National Heritage Area's SmartPhone DigiTrail).
- F. Evaluate the benefits of and logistics involved in utilizing Facebook, YouTube or Twitter to promote canal preservation activities. (Example: North Dakota Tourism RU Legendary Campaign).
- G. Keep up-to-date on technological advances that can be used to promote and interpret the canal. Attend conferences/workshops and read trade publications to monitor progress in improving and developing new technological applications. (Example: University of Massachusetts Amherst May 2012 Conference called High-Tech Heritage - How Are Digital Technologies Changing Our Views of the Past?)

Time Frame and Milestones:

- A and B. Complete tasks within 1 year
- C. Complete within 1 month
- D. Perform task on an on-going basis
- E and F. Complete within 6 months
- G. Perform task on an on-going basis

Costs:

Initial: This recommendation focuses on the tasks associated with a continual assessment of media trends and therefore does not involved any initial costs.

Operational: \$2,000 (\$50/hour x 40 hours)

Potential Funding Sources:

- New Jersey Department of State, Division of Travel and Tourism
- New Jersey Historic Trust
- Tourism Cares for Tomorrow

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Media and technology consultants
- Visitors
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation C11- Prepare and distribute a user satisfaction survey for programs and utilize the results to improve future activities.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

Individuals who participate in educational programs appreciate being asked for their feedback and are often the source of good ideas for improving them. The survey results are not only helpful in modifying programs to address any concerns but also in documenting the success of interpretive activities to potential funders.

Recommendation(s):

Utilize the following approach in developing and implementing user satisfaction surveys:

- A. Conduct research on the types of user surveys used by other heritage tourism sites and organizations to assess their activities in order to identify the survey format(s) best suited to the programs offered by WCMCC.
- B. Determine the appropriate length of the survey to solicit key information from the public based upon the type of educational program offered.
- C. Design the survey to include questions that will collect information on the following topics:
 - Demographic information (i.e., number of adults and children in their party, how far they traveled to participate in the program, etc.)
 - Publicity (i.e., how did they hear about the program)
 - Knowledge of the Topic (i.e., how familiar were they with the subject matter before and after they participated in the program, what would they like to know more about)
 - Interpretation (i.e., was the interpreter knowledgeable of the subject matter; did the interpreter present the information in an interesting manner; were your questions answered; how helpful were the handouts, displays, models, photographs, etc. in communicating information about the topic)
 - Enjoyment of the Program (i.e., what did they like best about the program, what was the most interesting, would they recommend the program to others, what did they find the most useful, how would they rate their overall experience, did the program meet or exceed their expectations, was the program too long or short)
 - Hospitality (i.e., did they have any problems finding the location of the program; were they greeted in a friendly manner; was the program conducted in a professional way; did they receive helpful answers to their questions; how likely are they to return to the area; was the program facility clean and attractive; how would they rate the food, restrooms)
 - Extent of Visit (i.e., how much time will they be spending in the area; will they be staying overnight and, if so, where; will they be participating in other activities during their stay and, if so, what kinds and where)
 - Additional Comments (i.e., provide space for other input not covered by structured questions)
 - Contact Information (offer to notify them of future programs if they provide contact information)

Recommendations: *greenway-wide*

- D. Decide whether an incentive will be provided to encourage participants to complete the survey (i.e., a discount coupon for an item at a local business or a reduced fee for attendance at a future program).
- E. Test and modify the survey prior to distribution.
- F. Tabulate the results and develop a database to document program success. Compare the findings over time and modify programs based upon survey results.
- G. Modify survey questions as needed to capture pertinent information as existing programs change and new programs are added.

Time Frame and Milestones:

- A and B. Complete within 2 months
- C-E. Complete within 6 months
- F and G. Perform tasks on an on-going basis.

Costs:

Initial: \$6,000 (\$50/hour x 120 hours)

Operational: \$100 tabulation per program using volunteers (\$25/hour x 4 hours)

Potential Funding Sources:

- Warren County

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Potential of the proposed incentive to increase heritage tourism revenue. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Volunteers
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation C12- Request that the Morris Canal be portrayed on maps of Warren County prepared by others

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... stimulates the local economy through heritage tourism.

Recommendations: *greenway-wide*

Project Description:

There are a number of maps produced by others for informational and promotional purposes that could be used to increase public awareness of the Morris Canal as an open space, historic and recreational resource. Efforts should be undertaken to ask mapmakers to depict the canal as they update existing maps and/or produce new maps of the county.

Recommendation(s):

Improve public knowledge of the Morris Canal by showing its route and key features on maps distributed to the public.

- A. Determine the type of road, information, educational and other maps of the county currently available to the public for free or for sale in print or digital format. Obtain the contact information for the map makers.
- B. Document the extent to which these maps currently show the Morris Canal and its key features.
- C. As needed, contact the map makers to assess their willingness to include the Morris Canal on updates to existing maps and on new maps (includes correcting map errors if found). Inquire as to the level of detail to be used in providing information about Morris Canal on their maps.
- D. Prepare written information and camera-ready artwork in keeping with the format used by the map makers and submit the information and artwork in accordance with publication deadlines.
- E. As appropriate, utilize/distribute the maps in public education activities.
- F. Contact the map makers on a regular basis to provide new information about the canal and insure the canal continues to be depicted on their map products.

Time Frame and Milestones:

- A and B. Complete tasks within 2 months
C and D. Complete tasks within 1 month
E and F. Perform tasks on an on-going basis

Costs:

Initial: \$4,000 (\$25/hour x 80 hours + \$50/hour x 40 hours)

Operational: \$500 annually (\$25/hour x 20 hours)

Potential Funding Sources:

- Warren County

Economic Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes.

Recommendations: *greenway-wide*

Public Benefits:

Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Volunteers
- Warren County Chamber of Commerce and Convention and Visitors Bureau
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Public Information

Recommendation C13- Regularly revise website to keep educational and program information current.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

Project Description:

The WCMCC website has become a valuable tool in communicating with the public and should be maintained on a regular basis to contain the most recent information about educational issues and activities along the canal.

Recommendation(s):

Implement the following process for insuring that the WCMCC website is up-to-date in providing educational resources for the public's enjoyment.

- A. Discuss the need for website content updates as part of the WCMCC monthly meeting agendas.
- B. Establish and implement a procedure for quickly updating the website to include time-sensitive material, such as notices of upcoming events, in comparison to educational material that is not based upon a critical timeline for distribution, such as additional historical information about the canal.
- C. Utilize the results of user satisfaction surveys as a basis for modifications to the website.
- D. Develop a means by which public requests for new educational information can be addressed and the information incorporated into the website content as appropriate.

Time Frame and Milestones:

A-D. Perform tasks on an on-going basis as new information arises.

Recommendations: *greenway-wide*

Costs:

Initial: This recommendation focuses on improvements to a website that has already been created. Therefore, no initial costs are involved.

Operational: \$1,000 annually (\$25/hour x 40 hours)

Funding Sources:

- Warren County General Operating Budget
- Volunteers

Benefits:

Potential income generated from public participation in canal-related educational activities for which fees are charged for fundraising purposes. Improved local awareness, appreciation and enjoyment of canal preservation activities.

Suggested Implementation Agencies:

- Volunteers
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Economic Development and Funding Strategies

Potential Funding Sources

The following alphabetical list contains information about potential funding sources intended to support the economic development and funding strategies recommendation as well as other recommendations throughout this report. Their funding priorities and criteria for considering funding requests, all of which are subject to change. It is not intended to represent all of the possible funding opportunities that are currently available or that may arise in the future.

1772 Foundation (<http://www.1772foundation.org/1772/index.jsp>)

The mission of this private foundation is to help preserve American historical treasures by providing small grants of up to \$15,000 to 501(c)(3) organizations for the following historic preservation projects:

- Exterior painting, surface restoration and finishes
- Installation of or upgrade to security, lightning protection and fire detection systems
- Repair and restoration of windows, porches and roofs
- Structural sill repair and replacement
- Repair and re-pointing of foundations and chimneys

Funds are provided on a 1:1 matching basis. “To demonstrate the sustainability of historic sites, applicants may be required to submit a cyclical maintenance plan, condition assessment, restoration plan or stewardship plan that has been prepared or updated within the last five years. If an appropriate plan does not exist, the foundation will consider providing support for development of a plan on a case-by-case basis.”

American Express (<http://about.americanexpress.com/csr/hpc.aspx>)

American Express supports Section 501(c)(3) and 509(a)(1), (2) or (3) “organizations and projects that preserve or rediscover major historic sites and monuments in order to provide ongoing sustainable access and enjoyment for current and future audiences. The programs we support include historic landmarks and public spaces. We emphasize preserving sites that represent diverse cultures.” Eligible projects include:

- Restoring historic places to ensure ongoing public access and interaction with the sites.
- Preserving historic places for future or innovative use.
- Sustaining historic places by creating systems to manage increased visitor activities and environmental impacts.

American Express does not fund archival projects; individuals needs, including scholarships, sponsorships and other forms of financial aid; fund-raising activities, such as galas, benefits, dinners and sporting events; Goodwill advertising, souvenir journals or dinner programs; travel for individuals or groups; sectarian activities of religious organizations; political causes, candidates, organizations or campaigns; books, magazines or articles in professional journals; endowments or capital campaigns, except restoration projects; traveling exhibitions (we will only consider each venue on its own); and sports sponsorships. Letters of inquiry may be submitted throughout the year and must address the following questions:

1. Why is this historic place important to the community? Meaning, what is its historical significance and its role in the community?

Recommendations: *greenway-wide*

2. What is the specific, quantifiable impact of the project to the community? How will you measure it? (Please note, "Community" can mean visitors, local residents, businesses, etc.)
3. What is the expected number of people who will visit the historic place after the completion of the project? How does this compare to your usual attendance?

Avantor Performance Materials (<http://www.avantormaterials.com/content.aspx?id=4294983698&terms=community>)

This manufacturing company provides grants 501(c)(3) organizations to promote science education and environmental stewardship. For educational projects, "priority is given to general science and chemistry education; initiatives that enhance the educational experience for groups of students, rather than individual students; initiatives that enhance educational programs and curricula with the goal of developing long-term, sustainable programs within schools or entities; initiatives that provide a safe educational environment for at-risk individuals or underserved populations." For environmental protection and sustainability initiatives, "priority is given to initiatives that develop or enhance sustainability programs (i.e., recycling programs, community clean-up programs); initiatives that promote energy efficiency and conservation; initiatives that enhance greenspace and recreational areas." The company also encourages its employees "to donate their time to non-profit organizations in the communities in which they live or work." For more information, contact: Gene Nichols, Manager, Internal Communications and Community Relations, 610-573-2754, gene.nichols@avantormaterials.com

Comcast Foundation (<http://www.comcast.com/corporate/about/inthecommunity/foundation/comcastfoundation.html?SCRRedirect=true>)

The Comcast Foundation funds 501(c)(3) organizations involved in "diversity-oriented programs that address digital literacy, promote community service and build tomorrow's leaders" in addition to augmenting its funds with employee "volunteer time, promotional activities and other in-kind contributions." Unsolicited requests for sponsorships or grants are not accepted. Instead, Comcast's "community partners are proactively identified by local Comcasters in the field. As members of the community, they have an intimate knowledge of local nonprofits and can best allocate the funds to projects that will make the largest impact where it is most needed." Since consideration will only be given to organizations within Comcast's services area, information about an organization should be "sent to the local address for all related correspondence." Comcast does not fund "marketing sponsorships; sporting events; trips or tours; capital campaigns; endowments; research studies; lobbying campaigns; donor-advised funds; private foundations; individuals; political candidates or political organizations."

FirstEnergy Foundation (https://www.firstenergycorp.com/community/firstEnergy_foundation/index.html)

This foundation supports non-profit organizations within the service area of its subsidiaries including Jersey Central Power & Light Company, in order to "help improve the vitality of our communities and support key safety initiatives, promote local and regional economic development and revitalization efforts, and support FirstEnergy employee community leadership and volunteer interests." Funds are not typically provided for schools or "organizations that receive sizeable public tax funding." Since unsolicited grant applications are not accepted, the foundation recommends that projects be discussed with local company representatives who will determine if a grant application should be submitted. In Warren County, the local JCP&L representatives are Stan Prater (973-401-8300) and Mike Obremski (973-401-8860). The foundation also matches its employee contributions to "qualifying educational, cultural, civic, and health and human service organizations not supported by federated campaigns like the United Way."

Recommendations: *greenway-wide*

Georgia-Pacific Foundation (<http://www.gp.com/gpfoundation/index.html>)

“The Georgia-Pacific Foundation supports quality programs in Education, Environment, Entrepreneurship and Community Enrichment that produce tangible results and make a measurable difference in the quality of life in the places where our employees live and work.” Funding is given to 501.c.3, government, school, fire or police organization within a 30-mile radius of its manufacturing facilities (i.e., in Milford, NJ). The company also has a Service Force program to encourage employees to volunteer in the community.

Green Acres (<http://www.nj.gov/dep/greenacres/>)

The mission of the Green Acres Program is “to achieve, in partnership with others, a system of interconnected open spaces, whose protection will preserve and enhance New Jersey’s natural environment and its historic, scenic, and recreational resources for public use and enjoyment.” Eligible projects include the acquisition of “natural areas, historic sites, conservation areas, water bodies, and open space for active or passive recreation purposes” in addition to “park development projects that result in increased public use and enjoyment of outdoor recreation areas.” Development projects must occur on land owned by or under a 25-year irrevocable lease or use agreement with a local government owned land.

Warren County is eligible for Planning Incentive Acquisition grants since it has “an open space tax (or a Green Acres-approved alternative) and an adopted Open Space and Recreation Plan (less than six years old) approved by Green Acres.” Funding is available in the form of a Green Acres 50% matching grant, with the opportunity to obtain the balance as a loan.

Phillipsburg is classified as an Urban Aid community in addition to being a densely or highly populated municipality. As a result, Phillipsburg it may receive a 75% matching grant and, subject to available funding, a 25% zero percent interest Green Acres loan (payable over thirty years) for acquisition projects and a 50% matching grant and, subject to available funding, a 50% zero percent interest loan (payable over twenty years) for park development projects.

All other local municipalities along the Morris Canal are eligible to receive loans at 2% interest for park development projects, payable over twenty years. With regard to grants and loans for land acquisition, the kind and amount of Green Acres funding varies depending upon whether the municipality has an open space tax and an adopted and current Open Space and Recreation Plan. See program guidelines for more details.

Hyde and Watson Foundation (<http://foundationcenter.org/grantmaker/hydeandwatson/guide.html>)

This private foundation provide grants ranging from \$5,000 to \$25,000 for “education, social services, arts, health, religion, and humanities” projects within Essex, Morris and Union Counties in New Jersey in addition to the five borough of New York City. It is unclear whether the foundation would make an exception for the Morris Canal in Warren County, since the other portions of the canal fall within its geographical funding area. If so, this foundation “supports capital projects such as hard costs related to purchase or relocation of facilities and/or building improvements, purchase of capital equipment, limited medical research, and other one-time capital needs” and does not fund “requests for endowment, operating support, benefit fundraisers, annual fund appeals, from fiscal agents or for leases or rentals of equipment.”

Recommendations: *greenway-wide*

Mars Volunteer Program (<http://www.mars.com/global/about-mars/mars-pia/working-at-mars/associates-in-our-communities.aspx>)

Employees of the Mars Corporation “can take one paid day off to volunteer at local organizations selected by the teams at their sites.”

National Scenic Byway Program (<http://www.bywaysonline.org/grants/>)

Certain improvements associated with the Warren Heritage Scenic Byway and recommended in the Corridor Management Plan for this roadway are eligible for funding from the National Scenic Byway Program. Local governments, including counties, can request 80% federal funding with a 20% local match for these projects, among others:

- The construction of a facility for pedestrians and bicyclists, rest area, turnout, highway shoulder improvement, overlook or interpretive facility.
- An improvement that will enhance access to an area for the purpose of recreation, including water-recreation.
- The protection of scenic, historical, recreational, cultural, natural, and archaeological resources in an area adjacent to a scenic byway.
- The development and provision of tourist information to the public, including interpretive information about a scenic byway.

Funds from other federal sources cannot be used as the local match. However, local governments may use property, materials and services may be used as an in-kind match. The following projects are not eligible for funding:

- Streetscapes and local sidewalks
- Routine road construction and maintenance
- Routine landscaping, vegetation management and maintenance
- Preserving a pool of possible properties, rather than a specific property or properties
- Local trails that do not have a direct relationship to the byway

National Trust for Historic Preservation (NTHP)

(<http://www.preservationnation.org/resources/find-funding/nonprofit-public-funding.html>)

The trust provides funds for a variety of project from the following sources:

- The National Trust Preservation Fund provides grants ranging from \$2,500 to \$5,000 to nonprofit organizations and public agencies for preservation planning and educational efforts. Planning grants provide “support for obtaining professional expertise in areas such as architecture, archaeology, engineering, preservation planning, land-use planning, and law. Eligible planning activities include, but are not limited to: hiring a preservation architect or landscape architect to produce a historic structure report or historic landscape master plan; hiring a preservation planner to produce design guidelines for a historic district; hiring a real estate development consultant to produce an economic feasibility study for the reuse of a threatened structure; and sponsoring a community forum to develop a shared vision for the future of a historic neighborhood.” Education and Outreach grants provide “support for preservation education activities aimed at the public, particularly programs aimed at reaching new audiences. Funding will be provided to projects that employ innovative techniques and formats aimed at introducing new audiences to the preservation movement and feature educational programs or conference sessions that focus on building sustainable communities, re-imagining historic sites, promoting diversity and place; and protecting historic places on public lands.”

Recommendations : *greenway-wide*

- The Johanna Favrot Fund for Historic Preservation provides grants ranging from \$2,500 to \$10,000 to nonprofit organizations and public agencies for “projects that contribute to the preservation or recapture of an authentic sense of place.” Eligible activities and projects include: “obtaining the services of consultants with expertise in areas such as architecture, planning, economics, archeology, fundraising, media relations, education or graphic design; obtaining professional advice to strengthen management capabilities; designing, producing and marketing print and video communications materials; sponsoring preservation conferences and workshops; designing and implementing innovative preservation and education programs.”
- The Cynthia Woods Mitchell Fund for Historic Interiors provides grants ranging from \$2,500 to \$10,000 to nonprofit organizations and public agencies for “the preservation, restoration, and interpretation of historic interiors.” Eligible projects include: “obtaining professional expertise in areas such as architecture, planning, paint analysis, archeology, or graphic design; hiring a preservation architect to create an interior restoration plan; hiring a consultant to develop a conservation plan for an interior’s textiles; producing a historic furnishings plan; sponsoring a workshop on the preservation of historic interiors.”

Eligible expenses for the National Trust Preservation Fund include: “fees for consultant services; speaker fees/faculty costs for educational programs and conference sessions; mailing costs for distribution of materials; the development of materials for education and outreach campaigns, including web site development; and materials and services such as printing, photographs, telephone, and supplies. Eligible expenses for the Johanna Favrot and Cynthia Woods Mitchell Funds include: “fees for consultant services; speaker/faculty costs (honoraria, travel, and lodging), room rental for conferences; mailing costs for distribution of materials; web site development; and materials and services such as printing, photographs, telephone, and supplies. With the exception of publications projects, these expenses may not exceed 10 percent of the project budget.” Note that applicants must be a Forum or Main Street member of the NTHP in order to request funding from this program. A 1:1 cash match (no in-kind donations) is required.

New Jersey Council for the Humanities (<http://www.njch.org/>)

“The New Jersey Council for the Humanities is a nonprofit organization whose mission is to serve the people of New Jersey by developing, supporting and promoting projects that explore and interpret the human experience, foster cross-cultural understanding, and engage people in dialogue about matters of individual choice and public responsibility. One way that the Council achieves its goals is by awarding grants to New Jersey nonprofit organizations in support of their public humanities projects. As a state partner of the National Endowment for the Humanities, NJCH receives federal funding for its grants program...NJCH invites New Jersey nonprofit organizations to submit requests for funding in support of their public humanities projects. These projects offer ways to examine the meaning of the human experience...NJCH is especially interested in projects that address the Council’s theme of Justice, which encourages historical, philosophical, legal, political and/or cross-cultural reflection upon the concept of justice and its application in community and social institutions. Major grants (up to \$20,000 offered competitively once a year) and mini grants (up to \$3,000 are awarded four times a year) are available contingent upon 1:1 matching funds.

NJ Department of Education (<http://www.state.nj.us/education/grants/>)

The department’s Office of Grants Management continually updates its website to provide information on current grant funding opportunities which are subject to change. Its archive of previous grant funding is helpful in anticipating upcoming opportunities and funding program criteria and guidelines.

Recommendations: *greenway-wide*

NJ Dept. of State, Division of Travel & Tourism (<http://www.visitnj.org/grant-opportunities>)

This agency provides grants to promote tourism in the state include the programs summarized below:

- **Cooperative Marketing Grant:** “The Cooperative Marketing Grant Program, is a collaboration between the New Jersey Department of State, Division of Travel & Tourism and the New Jersey travel industry, whose goal is to promote New Jersey as a premier travel destination. Funding will be provided to promote and market specific tourism opportunities in New Jersey. The FY 2013 Cooperative Marketing Grant Program is open to any New Jersey organization that can demonstrate a significant interest in the New Jersey tourism industry. Organizations must show a match of 25% match from partners or sponsors that are Non-State funding sources. State funds awarded for the Cooperative Marketing Grant plus the non-state match must be spent on your marketing program. The match cannot be in-kind, cash on hand or bartered services.”
- **Destination Marketing Organization Grant:** “Destination Marketing Organizations (DMO) serve to promote and market specific destinations in our State. A destination can be a single city, a group of municipalities or an entire region. It must “connect the dots” by linking attractions to restaurants and accommodations. It must work with area business leaders to drive visitation when and where it is most appropriate. It must be an advocate for the industry it serves. The DMO Grant is a highly competitive program that is designed to empower organizations to drive visitation. The approval process considers all aspects of a DMO’s viability as an organization.”

New Jersey Historical Commission (http://www.state.nj.us/state/historical/dos_his_grants.html#gosgrants)

The commission offers several grant programs to New Jersey based organizations involved in historic preservation initiatives:

- **Project Grants** ranging from \$3,000 to \$15,000 can be used for the “conservation of historical materials (manuscripts, books, costumes, historical visuals); editorial and publication projects; educational initiatives; exhibitions; media (films, radio, videotape, digital media); public programs; and research (including archaeological projects, fellowships, oral history, and National and New Jersey registers of historic places nominations).” A 50 percent match of funds or in-kind services must be provided if an organization’s operating budget exceeds \$500,000.
- **Mini Grants** up to \$3,000 can be used “for planning (long-term, strategic, interpretive) but not for other types of operating support. Eligible categories include conservation of historical materials (manuscripts, books, costumes, historical visuals); editorial and publication projects; educational initiatives; exhibitions; media (films, radio, videotape, digital media); public programs; and research (including archaeological projects, fellowships, oral history, and National and New Jersey registers of historic places nominations).” A 50 percent match of funds or in-kind services must be provided if an organization’s operating budget exceeds \$500,000.
- **General Operating Support grants** provide “general assistance to historical organizations, museums, historic sites, archives, libraries, and similar organizations with collections or programming relating to the history of New Jersey,” although funding is very limited. Nonprofits and governmental agencies may apply for funding, including Cultural and Heritage agencies. The minimum grant request is \$5,000, with no matching fund requirement. Grants of up to \$10,000 can be given to organizations with annual budgets of less than \$30,000, with no matching fund requirements. “Organizations with budgets exceeding \$30,000 may apply for grants of up to 33 percent (1/3) of the average of the organization’s total non-state operating income from the last completed fiscal year and current projected year. No funds from any state of New Jersey source may be counted as part of the operating income...For every dollar awarded, the grantee must match it with three dollars.”

Recommendations: *greenway-wide*

(Please refer to the grant guidelines for more information on the different grant awards and matching requirements that can be made to Cultural and Heritage agencies). Eligible expenses include:

- Salaries and wages
- Contracted services/outside fees and services
- Printing, publicity, marketing
- Postage and telephone
- Fundraising and development
- Staff training
- Lease expenses
- Mortgage interest
- Equipment purchase, installation, and lease (e.g., computers, office furnishings, files)
- Utilities and HVAC (purchase, installation, and operational costs of heating, ventilation, and air conditioning)
- Maintenance of collections and the interiors of structures (Note: Interior construction is not considered maintenance and is not an eligible expense.)
- Basic grounds maintenance
- Travel and transportation (automobile travel @\$0.31/mile, train, or air coach travel)
- Insurance
- Licensing and registration fees (e.g., New Jersey charities registration)
- Planning for compliance with the Americans with Disabilities Act
- Long-term and strategic planning
- Audits (Note: Depending on the amount of the grant, the Historical Commission may require either a formal audit of grant expenditures or a review of finances by a licensed Certified Public Accountant as part of the final report. Applicants may include the fee for this work in their budget.)

New Jersey Historic Trust

“The New Jersey Historic Trust’s (NJHT) mission is to advance historic preservation in the state for the benefit of future generations through education, stewardship, and financial and technical assistance programs that save New Jersey heritage and strengthen the state’s communities. Funding assistance is available for units of local and county government or qualified nonprofit organizations. Technical assistance and easement advice is available to public and private owners of historic resources. For information regarding the following programs administered by the NJHT, please call the main telephone number at (609) 984-0473. You may also visit our website at www.njht.org or e-mail us at njht@dca.state.nj.us. The mailing address is: New Jersey Department of Community Affairs, New Jersey Historic Trust, PO Box 457, Trenton, NJ 08625-0457.

Monetary Resources

Capital Preservation Grants

Type of Assistance:

Financial-Grants.

Recommendations: *greenway-wide*

Description:

Provides matching grants for construction expenses related to the repair, preservation, restoration and rehabilitation of historic properties and associated architectural, archeological and engineering expenses.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places. Grants of \$150,000 or less are eligible for a 3:2 funding match, with the grantee providing at least \$2 in funds for every \$3 of grant money awarded. Grants of more than \$150,001 will require a 1:1 match, with the grantee providing at least \$1 in funds for every \$1 of grant money awarded.

Funding Source:

Garden State Historic Preservation Trust Fund and State General Obligation Bonds.

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473
New Jersey Department of Community Affairs 2011 Grants and Resources

Cultural Trust Capital Preservation Grants

Type of Assistance:

Financial-Grants.

Description:

Aids nonprofit history and humanities organizations to construct, expand, renovate, plan for, repair, rehabilitate, restore, adaptively reuse, purchase, replace, relocate, or otherwise improve cultural and historical properties and facilities, including any work relating to providing access for persons with disabilities. Applicants must be certified by the NJ Cultural Trust.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places. If an organization's project costs more than is being requested, the proposal must clearly demonstrate organization's ability to provide the remaining necessary funds.

Funding Source:

New Jersey Cultural Trust.

Recommendations: *greenway-wide*

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473

Discover NJ History License Plate Fund Grants

Type of Assistance:

Financial – mini-grants

Description:

Aids nonprofit organizations, including tourism providers and agencies of government, with initiatives to train and/or foster heritage tourism. Program emphasis is on projects that create, coordinate and promote tourism linkages between two or more resources.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places. Match not required; however, if an organization's project costs are more than is being requested the proposal must clearly demonstrate organization's ability to provide the remaining necessary funds.

Funding Sources:

Revenue from sale of Discover NJ History License Plates.

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473

Emergency Loan Fund

Type of Assistance:

Financial - Grants and Loans.

Description:

Provides emergency funding for capital preservation projects for historic properties.

Recommendations: *greenway-wide*

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places.

Funding Source:

New Jersey Historic Trust accounts.

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473
New Jersey Historic Trust

Historic Site Management Grants

Type of Assistance:

Financial-Grants.

Description:

Provides matching grants for non-construction expenses for preservation planning, historic register nominations, heritage tourism and fundraising plans, interpretive materials, and media or devices to help disabled visitors.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places. Grants are eligible for a 3:1 funding match, with the grantee providing at least \$1 in funds for every \$3 of grant money awarded.

Funding Source:

Garden State Historic Preservation Trust Fund and State General Obligation Bonds.
Assistance Provided To: Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473

Revolving Loan Fund

Type of Assistance:

Financial.

Recommendations: *greenway-wide*

Description:

Provides financing for the preservation, improvement, restoration, rehabilitation and acquisition of historic properties and certain ancillary non-construction activities.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places.

Funding Source:

State General Obligation Bonds.

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473

Non-Monetary Resources

New Jersey Legacies Program

Type of Assistance:

Legal and Advisory.

Description:

Assists New Jersey owners of historic homes to safeguard their property for future generations, reduce estate taxes, and potentially realize immediate tax benefits by making a charitable donation of their property.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places.

Funding Source:

Donation.

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Recommendations: *greenway-wide*

Contact:

(609) 984-0473
New Jersey Department of Community Affairs 2011 Grants and Resources 47

Preservation Easement Program

Type of Assistance:

Legal and Advisory.

Description:

Offers permanent legal protection to a wide range of historic properties including residences, commercial structures, farmsteads and historic landscapes. Easement donors may realize significant tax benefits for their charitable donations.

Other Information:

Properties must be listed or eligible for listing in the New Jersey or National Register of Historic Places.

Funding Source:

Donation.

Assistance Provided To:

Agencies or entities of state, county or municipal government; and certified tax-exempt nonprofit organizations that comply with New Jersey charity registration laws.

Contact:

(609) 984-0473

New Jersey Recreational Trails (http://www.state.nj.us/dep/parksandforests/natural/trail_grants.htm)

Governmental units and 501(c)(3) organizations may apply for up to \$25,000 in funds for non-motorized trail projects based upon an 80% federal share and 20% local match basis. The land on which the trail improvements will be made must be in public ownership or in private ownership "with an easement for public recreational use." Eligible projects include the "construction of new trails in existing parks or in new right of way; maintenance and restoration of existing trails; development and rehabilitation of trailside and trailhead facilities and trail linkages for trails (e.g., parking, signage, shelters, sanitary facilities); purchase and lease of trail construction and maintenance equipment; for motorized use only: acquisition of easement and fee simple title to property for trails." Funding is not provided for "land condemnation; trail feasibility studies; law enforcement personnel or activities; road and sidewalk improvements; purchase of promotional materials (e.g., t-shirts, caps, pins); projects on land with railroad tracks; conversion of non-motorized trails to motorized use."

PNC Foundation (http://www.pncsites.com/pncfoundation/foundation_overview.html)

Recommendations: *greenway-wide*

“The PNC Foundation’s priority is to form partnerships with community-based nonprofit organizations within the markets PNC serves in order to enhance educational opportunities for children, particularly underserved pre-K children through our signature, PNC Grow Up Great program, and to promote the growth of targeted communities through economic development initiatives,” including arts and culture. PNC’s Grow Up Great program “works to directly improve children’s school readiness by providing support in one of the following key areas: math, science, and the arts. By focusing our support in these critical areas, we hope to achieve greater results in school readiness, which will yield stronger, smarter and healthier children, families and communities.” With regard to economic development proposals, “priority is given to initiatives that strategically promote the growth of targeted low-and moderate-income communities and/or provide services to these communities” and which “enhance the quality of life through neighborhood revitalization, cultural enrichment and human services.”

PSEG Foundation (<http://pseg.com/info/community/nonprofit/foundation.jsp>)

PSEG Foundation provides grants to 501(c)(3) and 170(B) organizations for education, environment, and community and economic development projects as noted below:

- “Education – Workforce development for K-12 or higher education; math/science/technology/engineering programs; and, limited funding for special youth programs providing education to underserved populations.
- Environment – Global warming and climate change initiatives, conservation, community greening and environmental education.
- Community and Economic Development – Revitalizing urban communities by supporting the efforts of community development corporations and other nonprofits that are constructing and/or rehabilitating facilities for affordable or market-rate housing, developing new businesses and entrepreneurial opportunities, creating jobs and/or developing workforces via job skills and life skills training for adults, and public safety issues efforts to help protect and preserve neighborhoods.”
- “Limited funding is available for arts, sports, community fairs and other community functions.” Grant applications are submitted online and will be reviewed by regional representative George D. Sous, 240 Kuller Road, Clifton, NJ 07011. For more information, contact Sheila Rostiac, Director of Corporate Responsibility and Sustainability or Marion O’Neill, Manager of Corporate Contributions at 80 Park Plaza, 10C, Newark, NJ 07102.

Preserve America (<http://www.preserveamerica.gov/communities.html> and <http://www.nps.gov/history/hps/hpg/PreserveAmerica/index.htm>)

“The Preserve America matching-grant program offered through the National Park Service provides planning funding to designated Preserve America Communities to support preservation efforts through heritage tourism, education, and historic preservation planning. Municipalities or counties with an elected governing official, or unincorporated communities within their jurisdiction are eligible for designation if they meet the following qualifications:

- The community has supported (within the last three years) a historic or cultural preservation project that has promoted and/or is promoting heritage tourism or otherwise fostering economic vitality. The project must have involved a public-private partnership between government entities and at least one civic association, non-profit organization, or business enterprise.
- The governing body of the community has recently adopted a resolution indicating its commitment to the preservation of its heritage assets.
- The community meets at least five of the criteria outlined below (with at least one from each specified category:

Recommendations: *greenway-wide*

Category 1: Discovering Heritage Through Historic Places

- An ongoing, publicly available inventory of historic properties
- A community-supported museum, interpretive facility, archive, or local history records collection (private or public)
- Active citizen volunteer involvement, such as a docent or guide program for interpretation of local history and culture, or volunteer participation in improving the condition of heritage assets within the community
- Opportunities for children to learn about local heritage in the schools, through either established curriculum or special outreach activities

Category 2: Protecting Historic Resources

- A local governmental body, such as a board or a commission, charged with leading historic preservation activities within the community
- An adopted community-wide historic preservation plan that is being implemented
- A historic preservation review ordinance and volunteer or professional staff to implement it

Category 3: Promoting Historic Assets

- A local heritage tourism program or active participation in a regional program, with such promotional material as a walking/driving trail or tour itinerary, map of historic resources, etc.
- A regularly scheduled heritage observance or event
- A historic preservation awards or recognition program”

Note that funding for this program is not available for the year 2012 due to federal budgetary constraints.

Save America’s Treasures (<http://www.nps.gov/history/hps/treasures/index.htm>)

Offered through the National Park Service, this program allows local government and non-profit organizations to apply for funding to complete the following projects if they are nationally significant, threatened or endangered, mitigate the threat, have a clear public benefit and are feasible:

- “Preservation and/or conservation work on nationally significant intellectual and cultural artifacts and nationally significant historic structures and sites.
- Intellectual and cultural artifacts include artifacts, collections, documents, sculpture and works of art (hereinafter referred to as collections).
- Historic structures and sites include historic districts, sites, buildings, structures and objects (hereinafter referred to as historic properties).”
- The grant process is competitive and a 50% local match is required. The minimum federal share for collections projects is \$25,000 and \$125,000 for historic property projects, with a maximum federal share of \$700,000. Ineligible projects include:
- Acquisition (i.e. purchase in fee simple or interest) of intellectual and cultural artifacts, historic sites, buildings, structures or objects.
- Survey or inventory of historic properties or cataloging of collections.
- Long-term maintenance or curatorial work beyond the grant period.
- Interpretive or training programs.

Recommendations : *greenway-wide*

- Reconstruction of historic properties (i.e. recreating all or a significant portion of a structure that no longer exists).
- Moving historic properties or work on historic properties that have been moved.
- Construction of new buildings.
- Historic structure reports and condition assessments, unless they are one component of a larger project to implement the results of these studies by performing work recommended by the studies.
- Cash reserves, endowments or revolving funds. Funds must be expended within the grant period, which is generally 2 to 3 years, and may not be used to create an endowment or revolving fund or otherwise spent over many years.
- Costs of fund-raising campaigns.
- Costs of work performed prior to announcement of award.

Note that funding for this program is not available for the year 2012 due to federal budgetary constraints.

TD Charitable Foundation (http://www.tdbank.com/community/corporate_giving.html)

The foundation gives grants to 501(c)(3) organizations, public schools and state/local governmental entities focusing on affordable housing, education/financial literacy and the environment. Educational literacy projects include “reading, writing, math and financial literacy for all ages, pre- and after-school programs that reinforce basic learning skills, English as a second language, tutoring and mentorship, and education-focused youth development programs and initiatives.” Environmental projects include programs and initiatives that help improve the environment through energy-saving and sustainable measures, promote environmental awareness and education, and engage our communities in the active preservation of our natural surroundings.” Grant requests are submitted online and are reviewed on a quarterly basis. General operating support, endowments, capital campaigns and multi-year commitments are not eligible for funding. The foundation also provides sponsorships to any profit or nonprofit organization “that provides the bank with marketing opportunities.” Community sponsorship opportunities “may be promotional (e.g., booth, program ads, etc.), entertainment (e.g., tickets, tables, etc.) or of community relations value.” Applicants can submit a request by e-mail to discuss potential projects with a local community contact person from the bank prior to submission of a grant application.

Teaching with Historic Places (<http://www.nps.gov/nr/twhp/authors.htm>)

The National Park Service has developed “an online Author’s Packet to help individuals write a lesson plan using a format designed by a leading history educator and PhD historian. The Author’s Packet will help individuals create materials to convey the meaning and importance of historic places to students from upper elementary to high school. A proposal may be submitted for a lesson plan that is based on a National Register property and uses the Teaching with Historic Places (TwHP) format. If the proposal is accepted, NPS staff will provide guidance as the draft is further developed and revised to meet TwHP standards; arrange for it to be reviewed by education and subject-matter experts; and finalize the lesson for inclusion in the online national series.”

Tourism Cares for Tomorrow (<http://www.tourismcares.org/grants>)

This organization’s mission is to “distribute grants to worthy, nonprofit, 501(c)(3) tax exempt organizations for conservation, preservation, restoration, or education at tourism-related sites of exceptional cultural, historic, or natural significance around the world.” A site must have actual visitation and be “critical to the interpretation of the local area” to qualify for funding. Projects can

Recommendations : *greenway-wide*

be “self-contained or an identifiable component of a larger project” and be one of the following:

- “Brick-and-mortar capital improvements that help conserve, preserve or restore the structures or its contents at the cultural, historic or natural site, such as replacing windows or doors; or heating, venting, and air conditioning (HVAC), plumbing or electrical upgrades. (New construction, administrative overhead, planning, events, marketing, public relations, advertising or web projects are not eligible).
- “Educational programs that will enhance the way the site is interpreted, such as those relating to cultural, heritage or sustainable tourism, or those demonstrating innovative approaches or best practices. The programs should engage members of local host communities and the travelers to the site in the educational process, for example, responsible guiding.” (Ineligible expenses include staffing costs, benefits, travel costs, etc., connected to the eligible program). Components that may be eligible for funding, if justified, also include cutting-edge technology that makes the program possible or that revolutionizes the way the site is interpreted and visitors are educated, the development of training materials or educational publications (print or electronic) or ready-made off-the-shelf educational programming.”

Applicants have a stronger chance of receiving a grant if they have:

- “Secured matching or challenge grant funding from a source external to the applicant’s organization.
- A recommendation letter of support from the local, regional and/or national tourism office.
- An ability to demonstrate strong support from the local community.
- A site offering universal accessibility (both physical and programmatic).
- A site that demonstrates sustainable (i.e., green) practices.”

A letter of inquiry is required before permission is granted to submit a full grant application. A total of 12 grants, each \$10,000, will be awarded in 2012. The next deadline for letters of inquiry is July 2, 2012.

U.S Dept. of Transportation, Federal Highway Administration, Transportation Enhancements
(http://www.fhwa.dot.gov/environment/transportation_enhancements/ and <http://www.enhancements.org/index.asp>)

“Transportation Enhancement (TE) activities offer funding opportunities to help expand transportation choices and enhance the transportation experience. TE projects must relate to surface transportation and must qualify under one or more of the 12 eligible categories:

1. Provision of facilities for pedestrians and bicycles.
2. Provision of safety and educational activities for pedestrians and bicyclists.
3. Acquisition of scenic easements and scenic or historic sites (including historic battlefields).
4. Scenic or historic highway programs (including the provision of tourist and welcome center facilities).
5. Landscaping and other scenic beautification.
6. Historic preservation.
7. Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).

Recommendations: *greenway-wide*

8. Preservation of abandoned railway corridors (including the conversion and use of the corridors for pedestrian or bicycle trails).
9. Inventory, control, and removal of outdoor advertising.
10. Archaeological planning and research.
11. Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.
12. Establishment of transportation museums.

For more information, contact Michael Russo, Director, Division of Local Aid and Economic Development, New Jersey Department of Transportation, 1035 Parkway Avenue, PO Box 600, Trenton, NJ 08625-0600, Tel: 609-530-3640 Fax: 609-530-8044, mike.russo@dot.state.nj.us.
For fact sheets, see the National Transportation Enhancements Clearinghouse website at ntec@enhancements.org.

Verizon Foundation (http://www22.verizon.com/about/community/nj/community/nj_community.html)

Verizon provides grants to educational projects that “help people increase their educational achievement” with the requirement that grant recipients must “track and report program outcomes as well as specific results that demonstrate measurable human impact” on a quarterly basis. Eligible applicants include 501(c)(3) nonprofits, public and private elementary and secondary schools that are registered with the National Center for Education Statistics (NCES) and 170(B)(1)(a)(v) governmental units, among others. Applications may be submitted on-line any time from January 16th through October 16th. Requests for more than \$10,000 must be accompanied by a project budget. Field trips of any kind by elementary and secondary schools are ineligible for funding. “The Verizon Foundation also supports employee volunteerism by awarding a \$750 grant to a nonprofit organization when a Verizon employee volunteers 50 hours or more to the organization during the year.” For more information, contact Donnett Barnett Verley, Verizon New Jersey Public Policy and Corporate Responsibility director, on 201-794-9912 or reach her via e-mail at donnett.a.barnett@verizon.com.

Wells Fargo (https://www.wellsfargo.com/about/charitable/nj_guidelines)

Nonprofits, governmental agencies and public school systems in Warren County are eligible to apply on-line at any time throughout the year to this financial institution’s corporate giving program in New Jersey. The bank’s “first priority is to support programs and organizations whose chief purpose is to benefit low- and moderate-income individuals and families” including community development programs that “revitalize and stabilize communities” and educational programs that “work to eliminate the pre-K through 12th grade achievement gap in public education through curriculum-based or school-sponsored programs.” However, consideration is also given to support for organizations that “work to enhance a community’s quality of life through projects involving public policy, community beautification, civic leadership, citizen education and cultural diversity” in addition to programs that build strong environmental practices by conserving natural resources, protect endangered species and preserve the global environment. Contact Deborah Smith, Community Affairs Manager for more information at Wells Fargo, MAC#J0109-451, 12 East 49th Street, 45th Floor, New York, NY, 10017, 212-214-4390, deborah.a.smith2@wellsfargo.com.

Recommendations: *greenway-wide*

Recommendation ID	Project Strategy	Vision Statement						
		To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.	leverages the value of the canal to support sound land use planning decisions.
Greenway Wide: Economic Development and Funding Strategies								
D1	Build partnerships with the local business community					Primary		Secondary
D2	Build partnerships to promote tourism opportunities related to the canal	Secondary						Primary
D3	Build partnerships with other local, linearly based cultural and heritage attractions	Secondary						Primary
D4	Create database to organize funding opportunities and projects			Primary	Secondary			
D5	Formalize grant funding standard operating procedures			Primary	Secondary			
D6	Develop and implement funding strategies to solicit and increase monetary contributions from individuals and organizations	Primary	Secondary					Primary

Recommendation D1- Build partnerships with the local business community

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... stimulates the local economy through heritage tourism.

Project Description:

Developing synergistic relationships with businesses near the greenway will provide them with opportunities to advertise in canal-related promotional events and materials increasing their consumer base while providing the greenway with a source of revenue for trail development, promotion, and maintenance. Creating new retail opportunities at strategic, market-supported, locations along the greenway can afford trail users access to convenient services and/or goods and generate revenue for the greenway. Individual vendors provide service to greenway visitors like food services, event planning, canoes, boating, lifeguards, etc., and generate financial return to the land management agency. Outside professionals can also provide specialized functions (i.e. lease management).

Recommendations: *greenway-wide*

Recommendation(s):

- A. Provide opportunities for local business and non-profits to advertise at canal related events and in associated promotional materials increases. Implement the following canal related activities and promotional materials:
- Organize fundraising activities (i.e. dinner/cocktail events, trail tours, or races) aimed at raising trail awareness and supporting local businesses
 - Sell naming rights to wayfinding signage or information kiosks.
 - Develop an adopt-a-trail segment financial sponsor program (i.e. "Adopt-A-Mile")
 - Create a "Morris Canal Sustainable Business Network"
 - Create and distribute a quarterly publication with opportunities to promote the greenway and for local businesses to advertise. Promote "Morris Canal Sustainable Business of the Month"
- B. Develop retail opportunities at strategic market-driven locations along the greenway.
- C. Research comparable market rates and potential business partners for revenue-generating services at the following greenway locations:
1. Saxton Falls:
 - Food concessions and small paddle boat rentals
 - Tented events
 - Cross marketing opportunities with Waterloo Village⁴¹
 2. Plane 9 West:
 - Tented events
 3. Bread Lock Park
 - Tented events

Time Frame and Milestones:

- A. Immediate: Non-Profit Formation, quarterly publications
- Short-Term (1-3 Years): Financial sponsor program, form Morris Canal Sustainable Business Network
- Long-Term (3+ Years): Naming Rights sold (dependent on development of signs and kiosks)
- B and C. Immediate: Potential partnership research, solicit vendors
- Short-Term (1-3 Years): Event Rentals

Costs

Initial: Recommendation A: Non-Profit Formation: New Jersey Filing fee: \$75
Recommendation B: Market demand research

Operational: Recommendation A: Volunteer-based Staffing: \$0

⁴¹ According to the Department of Environmental Protection's November 2011 Sustainable Funding Strategy for New Jersey State Parks, planning for a significant restructuring of New Jersey Park concessions has already begun. New Jersey's goal is to have concessionaires handle amenities so that it can concentrate on stewardship activities. Plans for the rehabilitation and upgrade of the Waterloo Village Meeting House are out for construction bids. The next step is an RFP to lease the Meeting House as a banquet facility.

Recommendations: *greenway-wide*

Potential Funding Sources:

- Fundraisers:
 - Events: Up to \$5,000 per year
- Advertisement Revenue:
 - Promotional Materials: \$200-\$300 per each ½ page.
 - Naming right: \$200-\$1,000 per year per sign/kiosk, price ranges based on size and location
 - Trail Financial Sponsor Program: \$500 per mile/year
- Rental Fees:
 - Tented events: \$2,000-10,000 per event
 - Concession rental fees: TBD based on market demand

Benefits:

Studies show that local businesses receive economic benefits from trails/greenways as a result of consumer expenditures on “soft goods” (food, clothing, and gas, etc.).⁴² Accordingly, local business, especially those located near trail access points and roadways, are expected to receive economic benefits from proposed improvements to the Morris Canal Greenway. Providing opportunities for advertising will help local businesses, even those not located in close proximity to the major trail access points or roadways, receive economic benefits from consumer expenditures.

Additionally, Individual vendors can provide more than one service to greenway visitors (i.e. food services, event planning, canoes, boating, lifeguards, etc.) and generate financial return to the land management agency.

Open space provides a wide variety of economically valuable ecoservices, including water supply, waste treatment, disturbance buffering, plant and animal habitat, and others⁴³. Preserving the Morris Canal Greenway will preserve open space land and valuable ecosystem services.

Preserving the Morris Canal Greenway will provide a wide variety of recreational services, such as hiking, picnicking, biking, bird watching, cross-county skiing, fishing, wildlife viewing, environmental education⁴⁴.

An increase in visitation and visitor satisfaction. Increased revenue to support stewardship, interpretation, maintenance and policing. Improved capacity to operate and maintain existing greenway and future acquisitions.

⁴² According to 2009 Rails-to-Trails Conservancy data for trails comparable to Morris Canal, the majority of trail users (60%) purchased soft goods (beverages, candy/snack foods, sandwiches, ice cream, restaurant meals, etc.), spending on average between \$4 and \$30 per visit (averaging \$14.14).

⁴³ 2006 study conducted by Constanza used a total of 100 studies covering the types of ecosystems present in New Jersey to estimate ecoservice values for a given ecosystem. Using the average ecosystem service values, each acre of preserved open space provided \$309 in waste, \$768 in disturbance prevention, \$772 in habitat, and \$1,100 in water supply services per year.

⁴⁴ According to 2005 study conducted by the U.S. Department of Agriculture, summarizing more than 30 years of literature on net economic value of outdoor recreation on public lands within the United States, the average person within the Northeastern region is willing to spend anywhere from \$6 to \$121 per day on recreational activities.

Recommendations: *greenway-wide*

Suggested Implementation Agencies:

- “Friends of Morris Canal Trail” non-profit organization with the sole objective of raising funds for trail development, promotion, and maintenance. As a 501(c)(3), the non-profit organization, they would be able to solicit tax-deductible donations.
- Individual service vendors (i.e. food services, event planning, canoes, boating, lifeguards, etc.)
- Warren County

Recommendation D2- Build partnerships to promote tourism opportunities related to the canal

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

Organizations or individuals who benefit from increased tourism activity related to the Morris Canal Greenway are likely to be interested in its preservation and promotion. Building partnerships between these individuals and organizations can help preserve and promote the canal, and increase canal-related tourism opportunities.

Recommendation(s):

Work with others to cross-promote canal-related tourism activities.

- A. Collaborate with organizations such as the following to educate the public, and promote canal-related tourism activities and businesses.
- Friends of Morris Canal Trail
 - Canal Society of New Jersey
 - American Canal Society
 - National Canal Museum
 - New Jersey Division of Travel and Tourism
- B. Create a plan to update cross-promotional materials on a regular basis to ensure that canal-related activities and businesses are up to date.

Time Frame and Milestones:

- A. Make initial contact with canal-related organizations within 1 year to discuss and identify potential collaborative opportunities. Complete one collaborative project with each willing organization every 5 years.
- B. Update cross-promotional materials as necessary.

Recommendations: *greenway-wide*

Costs:

Initial: \$2,000 (\$25/hour x 80 hours)

Operational: \$400 annually (\$25/hour x 16 hours)

Funding Sources:

- New Jersey Department of Tourism
- New Jersey Historical Commission
- Warren County

Benefits:

Potential heritage tourism revenue resulting from improved interagency coordination of activities. Improved coordination and interconnection of conservation activities as well as enhanced educational and recreational opportunities.

Suggested Implementation Agencies:

- Canal Society of New Jersey
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation D3- Build partnerships with other local, linearly based cultural and heritage attractions

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

Individuals who participate in other forms of recreational activities related to transportation, such as automobile touring, boating, and railroading, are likely to be interested in exploring the Morris Canal. Coordination of activities with organizations involved in scenic byway, river and railroad preservation can enhance existing recreational opportunities and foster increased heritage tourism

Recommendation(s):

Work with others to cross-promote transportation-based recreational activities.

- A. Collaborate with local railroad preservation organizations to coordinate and enhance conservation, interpretation and recreational activities.

Recommendations: *greenway-wide*

- B. Collaborate with Warren Heritage Scenic Byway to coordinate and enhance conservation, interpretation and recreational activities.
- C. Collaborate with the Musconetcong River Management Council to coordinate and enhance Wild and Scenic River conservation, interpretation and recreational activities.

Time Frame and Milestones:

- A. Make initial contact with railroad, byway and river organizations within 1 year to discuss and identify potential collaborative opportunities.
- B-C. Complete 1 collaborative project with each willing organization every 5 years.

Costs:

Initial: \$2,000 (\$50/hour x 40 hours) to make initial contact with organizations

Operational: Varies depending upon frequency and complexity of collaboration – Budget \$2,000 annually for collaborative projects

Potential Funding Sources:

- National Trust for Historic Preservation
- New Jersey Historical Commission
- Tourism Cares for Tomorrow
- Warren County

Benefits:

Potential heritage tourism revenue resulting from improved interagency coordination of activities. Improved coordination and interconnection of conservation activities as well as enhanced educational and recreational opportunities.

Suggested Implementation Agencies:

- Canal Society of New Jersey
- Friends of the New Jersey Transportation Heritage Center
- Musconetcong River Management Council (consisting of Allamuchy Township, Bethlehem Township, Bloomsbury Borough, Byram Township, Franklin Township, Greenwich Township, Hackettstown, Hampton Borough, Independence Township, Lebanon Township, Mount Olive Township, Mansfield Township, Washington Borough, Washington Township – Warren County, Washington Township – Hunterdon County, Heritage Conservancy, Musconetcong Watershed Association, and Trout Unlimited)
- New Jersey Department of Transportation
- New York, Susquehanna and Western Technical and Historical Society
- Phillipsburg Railroad Historians
- Warren County Land Preservation Department
- Warren County Morris Canal Committee

Recommendations: *greenway-wide*

Recommendation D4- Create database to organize funding opportunities and projects

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

A database is needed to coordinate proposed canal preservation projects with potential grant funding opportunities in order to pursue a broader range of financial support.

Recommendation:

Create the database by completing the following tasks:

- A. Prepare a detailed project scope and budget for each proposed canal preservation project for which funding is needed.
- B. Summarize each proposed canal preservation project in a brief fact sheet that can be used for publicizing funding needs and securing local matching commitments. This document should be geared for individuals who are not familiar with the canal.
- C. Document local matching commitments in formal letters of support. Prepare a sample letter of support to assist potential contributors in documenting their commitments.
- D. Categorize proposed canal preservation projects according to type to understand the breadth of funding needs (i.e., land acquisition, archaeology, historic preservation, education, etc.).
- E. Conduct research to identify potential funding sources for various project types based upon their specific funding requirements and limitations and to determine deadlines for grant application submissions.
- F. Develop an Excel spreadsheet cross-referencing a list of proposed canal preservation projects with identified funding sources, grant application submission deadlines, project budgets and secured local matching commitments.
- G. Update the database on an annual basis to keep abreast of changes in funding sources, criteria, deadlines, project scope/budget, local matches, etc.

Time Frame and Milestones:

- A and B. Complete within 6 months for existing projects and on an on-going basis for future projects.
- C. Complete as commitments are requested and secured.
- D-F. Complete within 1 year.
- G. Complete task on an on-going basis.

Recommendations: *greenway-wide*

Costs:

Initial: Task A: Varies – Budget \$800 per project (\$50/hour x 16 hours)
Task B: \$400 per fact sheet (\$50/hour x 8 hours)
Task C: \$200 per letter of support (\$50/hour x 4 hours)
Task D: \$1,200 (\$50/hour x 24 hours)
Task E: \$4,000 (\$50/hour x 80 hours)
Task F: \$2,000 (\$50/hour x 40 hours)

Operational: Task G: \$2,000 annually (\$50/hour x 40 hours)

Potential Funding Sources:

Since funding organizations typically do not provide grants to perform this work, utilize existing county resources to complete this project strategy.

Benefits:

Reduced dependency upon existing county financial resources to complete canal preservation projects. A broader financial base should help speed the completion of canal preservation projects, making them more quickly available for public enjoyment.

Suggested Implementation Agencies:

- Warren County Land Preservation Department
- Warren County Planning Department

Recommendation D5- Formalize grant funding standard operating procedures

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

In order to pursue grant funding opportunities effectively, there are several procedures that should be followed to make the best use of any time dedicated to fundraising. The potential success of fundraising efforts can be increased by establishing a process for preparing quality grant proposals.

Recommendation(s):

A set of standard operating procedures should be established to include, at a minimum, the following guidelines:

Recommendations: *greenway-wide*

- A. If at all possible, review a project with the grant funding agency prior to submitting a grant request to verify the suitability and viability of a potential grant request. Most, but not all, funding agencies are receptive to learning more about a project before a grant application is submitted and can often provide tips for writing a successful application.
- B. When requesting donations from multiple funding agencies, understand the coordination needed to satisfy all funding requirements. Avoid promising to complete more than is realistically feasible, given the specific project scope, timing and funding constraints.
- C. Ask for feedback or other debriefing on all unsuccessful grant requests to evaluate the viability of improving and resubmitting the grant application.
- D. Upon completion of a project financed with grant funds, acknowledge the contributions of the funding agency and any local matching contributors in a manner that encourages future public support.

Time Frame and Milestones:

A-D. Complete all tasks within 1 year in conjunction with recommendation D4 - Create database to organize funding opportunities and projects.

Costs:

Initial: \$400 (\$50/hour x 8 hours)

Operational: The cost of implementing the procedures varies depending upon the number and complexity of grant applications prepared, matching donations obtained, funding received, etc. For the purposes of this plan, budget \$400 per grant application (\$50/hour x 8 hours). This estimate does not include the cost of preparing and submitting the grant applications.

Potential Funding Sources:

Since funding organizations typically do not provide grants to perform this work, utilize existing county resources to complete this project strategy.

Benefits:

Reduced dependency upon existing county financial resources to complete canal preservation projects. A broader financial base should help speed the completion of canal preservation projects, making them more quickly available for public enjoyment.

Suggested Implementation Agencies:

- Warren County Land Preservation Department
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation D6- Develop and implement funding strategies to solicit and increase monetary contributions from individuals and organizations

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for an involvement in canal preservation efforts.

Project Description:

Most of the funding for canal preservation work currently comes from the Warren County Open Space Trust Fund, which has been effectively used to date. However, the WCMCC would like to undertake significant restoration projects at Bread Lock Park and Plane 9W, in addition to other activities outlined in this 25-Year Action Plan, requiring a considerable amount of funds to complete. Without additional financial resources, these projects will take much longer to implement.

Recommendation(s):

Cultivate new funding sources to increase financial support for canal preservation projects.

A. Create a membership program for individuals interested in contributing to canal preservation projects.

- Research the membership programs offered by other canal preservation organizations including the number of members and the dues charged in relationship to the benefits provided to their members. Such organizations typically offer a newsletter, discounts on merchandise, social events and other activities for their members in exchange for the dues. Understand the amount of administrative coordination and costs (i.e., newsletter development costs, merchandise expenses, value of discounts, costs of programs, record keeping, annual renewal reminders, etc.) needed to implement the membership program.
- Design a membership program tailored to the financial needs of the Morris Canal, including the method of joining and a “Welcome to the Morris Canal Membership Information Packet.”
- Establish a dues schedule based upon the proposed membership benefits and administrative coordination costs. Indicate what part of the dues is tax-deductible and provide donors with a record of their contribution for income tax purposes.
- Determine how members will be recognized in the newsletters and/or on the website.
- Publicize the membership program at all WCMCC events and on the website.

B. Create a list of items needed by the WCMCC (i.e., office equipment, maintenance tools, brochures printed, and other physical improvements) that could be donated by individuals.

- Determine the cost of each item and prioritize the items according to need. Understand the amount of administrative coordination and costs (i.e., work involved in updating the list, purchasing the items using donated funds, record keeping, etc.) needed to implement an item donation program.
- Design an item donation program tailored to the needs of the Morris Canal.
- Finalize the item list and associated costs based upon all anticipated expenses.
- Determine how individuals who donate an item will be recognized in the newsletters and/or on the website. Provide donors with a record of their contribution for income tax purposes.
- Publicize the list of items needed all WCMCC events and on the website.

Recommendations: *greenway-wide*

- C. Compare the actual costs of conducting existing educational and recreational programs with the current fees charged. Modify the fees charged as needed to cover actual expenses. Consider raising the fees to include an additional contribution towards a proposed project.
- D. Participate in grant funding workshops on a regular basis to identify agencies and organizations that might be interested in contributing to the Morris Canal Greenway project in coordination with Project Strategies D4 and D5.
 - Contact agency and organization representatives to discuss potential grant funding opportunities and to ask to be placed on a mailing list to receive announcements for upcoming grant workshops and grant application deadlines.
 - Regularly monitor the following websites, among others, for information on workshops and grant programs:
 - State of New Jersey- <http://www.nj.gov/nj/gov/njgov/grants.html>
 - Council of New Jersey Grantmakers- http://cnjg.org/s_cnjg/index.asp
 - The Center for Non-Profit- <http://www.njnonprofits.org/Fundingops.html>
- E. Evaluate the feasibility of offering an estate planning program for individuals interested in making a significant contribution to canal preservation efforts. Conduct research to determine if any other canal preservation organizations utilize this fundraising technique. Summarize any findings in a written report.
- F. Upgrade the website to include information explaining how individuals and organizations can contribute to canal preservation efforts.

Time Frame and Milestones:

- A. Complete within 2 years
- B and C. Complete within 1 year
- D. Perform task on an on-going basis.
- E. Complete within 5 years
- F. Perform task on an on-going basis

Costs:

- Initial:* Task A = \$5,000 (\$25/hour x 200 hours)
Task B = \$3,000 (\$25/hour x 120 hours)
Task C = \$200 (\$25/hour x 8 hours)
Task D = This recommendation focuses on the tasks associated with continual participation in grant funding training activities and therefore does not involved any initial costs.
Task E = \$4,000 (\$50/hour x 80 hours)
Task F = This recommendation focuses on improvements to a website that has already been created. Therefore, no initial costs are involved.

Recommendations: *greenway-wide*

Operational: Task A = \$2,000 annually (\$25/hour x 80 hours)
Task B = \$1,000 annually (\$25/hour x 40 hours)
Task C = \$100 annually (\$25/hour x 4 hours)
Task D = \$1,000 annually (\$50/hour x 8 hours + workshop expenses)
Task E = This recommendation is intended to be a one-time task to provide valuable information for use in completing the other Economic Development and Funding Strategies.
Task F = \$1,200 (\$25/hour x 4 hours/month x 12 months)

Potential Funding Sources:

Since funding organizations typically do not provide grants to perform this work, utilize existing county resources to complete this project strategy.

Benefits:

Reduced dependency upon existing county financial resources to complete canal preservation projects. A broader financial base should help speed the completion of canal preservation projects, making them more quickly available for public enjoyment.

Suggested Implementation Agencies:

- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Operations Recommendations

The preservation of the Morris Canal not only involves considerable time and money to purchase land associated with this historic structure but also requires additional labor and funds to maintain the canal in perpetuity. Public use of the canal for recreational and educational purposes is dependent upon the manner in which canal properties are well-maintained. Properties that are unkempt and deteriorating are less likely to encourage and support visitation than those that are regularly maintained.

The National Recreation and Park Association (NRPA) has established standards for determining the appropriate level of maintenance for different types of open spaces and recreational areas in relationship to the intensity of visitation, as outlined below:

Mode I

State of the art maintenance applied to a high quality diverse landscape. Usually associated with high traffic urban areas such as public squares, malls, government grounds or high visitation parks.

Mode II

High level maintenance associated with well-developed park areas with reasonably high visitation.

Mode III

Moderate level maintenance associated with locations with moderate to low levels of development, moderate to low levels of visitation or with agencies that because of budget restrictions can't afford a higher intensity of maintenance.

Mode IV

Moderately low level usually associated with low level of development, low visitation, undeveloped areas or remote parks.

Mode V

High visitation natural areas usually associated with large urban or regional parks. Size and user frequency may dictate resident maintenance staff. Road, pathway or trail systems relatively well developed. Other facilities at strategic locations such as entries, trail heads, building complexes and parking lots.

Mode VI

Minimum maintenance level for low visitation natural areas or large urban parks that are undeveloped.⁴⁵

The standards allow for different levels of maintenance to be assigned to different components of an open space system based upon the visitation and physical characteristics of each component. For each level of maintenance, NRPA suggests an approach to addressing basic maintenance tasks associated with turf care, fertilization, irrigation, litter control, pruning, disease and insect control, snow removal, lighting, surfaces, repairs, site inspections, floral plantings, restrooms and special features.

With regard to the management of natural resources in open space areas, the Natural Lands Trust (NLT) has developed a handbook of recommended stewardship practices.⁴⁶ The handbook discusses the importance of stewardship practices and outlines various methods for managing

⁴⁵ Park Maintenance Standards. National Recreation and Park Association. Alexandria, VA. 1986.

⁴⁶ Stewardship Handbook for Natural Lands in Southeastern Pennsylvania. Natural Lands Trust. Media, PA 2008.

Recommendations: *greenway-wide*

native vegetative cover conditions, wildlife, invasive species, stormwater, streambanks, trails, historic resources and hazards. In combination, the NRPA and NLT approaches provide a good framework for the WCMCC to use in developing an overall maintenance program tailored to the diversity of features and varying degrees of public access associated with the Morris Canal.

The process of developing an overall maintenance program should begin when a property is acquired with the preparation of a baseline conditions report, including an initial assessment of future maintenance responsibilities in order to anticipate long-term maintenance costs. Although Warren County has not typically performed baselines when acquiring canal property in the past, it is a requirement of the NJ Green Acres Program for the acquisition of conservation easements and is a recommended practice of the Land Trust Alliance for land conservation projects.

The baseline report can be used to determine the desired level of maintenance given the existing conditions of a preserved property and identify opportunities for volunteer involvement to minimize maintenance expenses. Warren County presently uses a combination of contracted services, county work forces and volunteers to maintain the Morris Canal properties it already owns. The baseline assessment process can also be used to evaluate the effectiveness of current maintenance practices for these properties. Additionally, the report can include information regarding existing and/or potential security, liability and illegal access issues that should also be addressed, especially since these concerns were found to be the most important to landowners adjacent to the canal during the planning process. The results of this analysis will help the WCMCC develop the specific scope, schedule and budget of maintenance tasks for each component of the Morris Canal Greenway in keeping with the desired level of maintenance.

The overall maintenance program should also set forth an overriding purpose that unifies the individual approaches used to maintain each site with the Morris Canal Greenway system. For example:

- The Trail Tenders program sponsored by the Delaware and Lehigh National Heritage Corridor is based upon the management goal of organizing volunteers to assist municipalities who own portions of the Lehigh and Delaware Canals with limited maintenance duties including trash pickup, basic trail grooming, invasive plant removal and brush clearing for the purpose of keeping the towpaths clean and historic canal structures visible for interpretation. The Delaware and Lehigh National Heritage Corridor allocates 50% of one staff person's time to coordinating the Trail Tender program. Several teams of volunteers have been established to perform maintenance work along certain sections of the canal that demand the most attention based upon the intensity of trail use.
- In contrast, the goal of the Delaware Canal State Park's maintenance program is designed to support public use of the Delaware Canal and Delaware River in recognition of its significant positive impact on the economy of local towns. As a result, this state park is divided into two maintenance regions serviced by 2 park rangers, 7 full-time staff and additional part-time staff who perform maintain and patrol the park with volunteer assistance from the Friends of the Delaware Canal.
- Delaware and Raritan Canal State Park is maintained by the NJDEP Division of Parks and Forestry as an important natural and recreational area and by the NJ Water Supply Authority as a public water supply. As a result, the maintenance and security responsibilities for this state park are shared accordingly. A non-profit organization known as the D&R Canal Watch provides volunteer maintenance support for trail clearing and beautification projects.

Recommendations: *greenway-wide*

It is important to note that canals filled with water typically require more maintenance than those with a dry bed due to the adverse impacts of flooding, as evident in the significant amount of repair required for the canals along the Delaware River. Floods in 2006 and 2011 caused millions of dollars in damage to the Delaware Canal, which has been dry for many years. The Raritan Canal also suffered significant damage.

Regardless of how the overall maintenance program is developed, considerable funds will be needed to maintain the Morris Canal Greenway over time. Steps should be taken now to establish an endowment or other funding stream to help pay for existing and future maintenance expenses.

Recommendation ID	Project Strategy	Vision Statement					
		To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...	highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals	tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.	interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.	provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.	stimulates the local economy through heritage tourism.
Greenway Wide: Greenway Operation Strategies							
E1	Prepare baseline condition and initial maintenance assessments						
E2	Document and analyze maintenance tasks, labor, equipment, materials, policies, volunteer involvement and costs for properties currently in County ownership						
E3	Develop an Overall Maintenance Program						
E4	Develop and train a network of volunteers to assist in greenway maintenance						
E5	Explore options for financing long-term maintenance activities						
E6	Support Warren County Mosquito Commission efforts and continue to strengthen partnership to maintain sites						
E7	Work closely with adjacent landowners during the development of new trail segments to identify and address potential security and privacy concerns						
E8	Review liability concerns with the Board of Chosen Freeholders and prepare a landowner education package addressing liability concerns						
E9	Identify areas where ATVs are illegally accessing trail segments and take global measures to discourage access						
E10	Develop and implement plan to identify and secure canal artifacts from removal, damage or defacing						

Recommendations: *greenway-wide*

Recommendation E1 - Prepare baseline condition and initial maintenance assessments

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the country;

Project Description:

A report of the existing conditions of a property already preserved or targeted for acquisition is a valuable tool in making sure that the property is managed and maintained for the public's benefit in accordance with any conservation restrictions.

Recommendation(s):

Complete a baseline report for each preserved canal property and utilize the information gathered to recommend and implement long-term management and maintenance objectives.

- A. Research the baseline report formats developed by the Green Acres Program, Association of New Jersey Environmental Commissions and non-profit land trust organizations to develop the desired process for completing a baseline and the required content of the report.
- B. Prepare a baseline policy and report format specifically tailored to the needs and characteristics of the Morris Canal, including an initial evaluation of maintenance needs and potential security, liability and illegal trespass issues.
- C. Perform baseline conditions and initial maintenance assessments on all preserved canal properties.
- D. Modify the policy and report format as needed to address new canal features or management issues.

Time Frame and Milestones:

- A-B. Complete within 3 years
- C. Complete within 1 year for canal properties that have already been preserved and on an on-going basis prior to the acquisition of new properties.
- D. Complete in an on-going basis.

Costs:

Initial: \$2,500 for each preserved property

Operational: A baseline assessment is a one-time task that does not involve operational expenses.

Potential Funding Sources:

- Warren County

Recommendations : *greenway-wide*

Benefits:

Improved understanding of the long-term maintenance costs associated with existing preserved properties and future lands to be acquired. Improved understanding of the long-term management responsibilities associated with maintaining the integrity of the natural and historic features of existing preserved properties and future lands to be acquired.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Board of Recreation Commissioners
- Warren County Planning Department of Land Preservation

Recommendation E2 - Document and analyze maintenance tasks, labor, equipment, materials, policies, volunteer involvement and costs for properties currently in county ownership

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Project Description:

There is currently no system in place for recording the on-going scope, cost and effectiveness of existing maintenance activities being conducted on preserved canal properties. An analysis of these activities is necessary to understand how to best deploy contracted, county work force and volunteer services to maintain the Morris Canal Greenway.

Recommendation(s):

Record and review existing maintenance practices and expenses for every preserved canal property.

- A. Conduct an inventory of existing maintenance activities documenting the following information:
 - Groups and individuals involved in maintenance, including contact information.
 - Tasks performed by each group/individual with the associated hours worked, month/season/ timeframe during which work was performed, tools/equipment needed and cost.
 - Differences between recurring versus one-time activities.
 - Issues encountered during the course of performing the maintenance work.
- B. Develop a month-by-month schedule of existing maintenance activities based upon the findings.
- C. Discuss the results of the inventory and schedule with those individuals involved in existing maintenance activities to identify ways in which to improve existing maintenance practices, including the need to address any gaps in maintenance and to make any adjustments in the timing or coordination of maintenance work. Implement recommendations as appropriate. Also compare inventory results with any user satisfaction surveys.

Recommendations: *greenway-wide*

D. Record all findings and analyze results.

Time Frame and Milestones:

A-D. Complete all tasks over the course of 1 year (to evaluate all four seasons of maintenance).

Costs:

Initial: \$7,500 (\$50/hour x 100 hours + \$25/hour x 100 hours)

Operational: This recommendation is intended to be a one-time task to provide valuable information for use in completing the other Greenway Operation Strategies.

Potential Funding Sources:

- Warren County

Benefits:

Improved understanding of the long-term maintenance costs associated with existing preserved properties and future lands to be acquired. Improved understanding of the long-term management responsibilities associated with maintaining the integrity of the natural and historic features of existing preserved properties and future lands to be acquired.

Suggested Implementation Agencies:

- Highlands Project
- NJ Youth Corps
- Volunteers
- Warren Count Bridge Department
- Warren County Buildings and Grounds Department
- Warren County Department of Engineering
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department

Recommendation E3- Develop an overall maintenance program

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Recommendations : *greenway-wide*

Project Description:

Maintenance tasks are not currently performed in accordance with an overall policy or program of activities that would insure the coordination of maintenance goals and outcomes throughout the greenway. An Overall Maintenance Program is not only needed to preserve the integrity of greenway resources but also to provide attractively managed sites for public visitation.

Recommendation(s):

Utilize the results of project strategies E1 and E2 to establish an Overall Maintenance Program for the Morris Canal Greenway.

A. Determine a Level of Maintenance Strategy for each preserved property using the NRPA Park Maintenance Standards and NLT Stewardship Handbook.

- Coordinate the maintenance strategies for all preserved properties based upon overarching maintenance goals and desired outcomes.

B. Develop a comprehensive Maintenance Plan for each preserved property based upon the results of Task A.

- The plan should separately itemize the recommended tasks associated with caring for the following features, among others:
 - Entrance facilities such as parking lots, driveways and entrance walkways
 - Canal building and structures
 - Vegetation (native and invasive vegetation, lawn areas, specimen trees and shrubs, flowers, etc.)
 - Recreational and educational amenities
 - Lighting
 - Signage
- Identify seasonal variations in maintenance practices as appropriate and prepare a month-by-month schedule of maintenance activities.
- Determine the frequency of inspections needed to monitor site conditions in response to the intensity of public use.
- Identify the personnel and equipment needed to perform the recommended maintenance tasks.
- Estimate the cost of implementing the plan and identify opportunities to offset maintenance costs through the use of volunteers or user fees.
- Develop and distribute a form for maintenance workers to use in recording maintenance and inspection activities.

C. Develop an annual budget and maintenance database to coordinate implementation of the Maintenance Plans.

D. Use actual maintenance expenditures as a metric in anticipating the cost of future preservation activities.

E. Update the Maintenance Program as needed based upon field inspection results and user satisfaction surveys.

Recommendations: *greenway-wide*

Time Frame and Milestones:

A. Complete within 3 months of the completion of Project Strategies E1 and E2.

B-C. Complete within 9 months for all preserved properties and within 3 months for all newly-acquired properties.

D-E. Complete in an on-going basis.

Costs:

Initial: \$1,000 for each existing property, \$2,000 for each new property

Operational: \$2,000 annually to update the Overall Maintenance Program + cost of actual maintenance expenditures

Potential Funding Sources:

- Warren County

Benefits:

Improved understanding of the long-term maintenance costs associated with existing preserved properties and future lands to be acquired. Improved understanding of the long-term management responsibilities associated with maintaining the integrity of the natural and historic features of existing preserved properties and future lands to be acquired. Improved condition of the greenway.

Suggested Implementation Agencies:

- Highlands Project
- NJ Youth Corps
- Warren County Bridge Department
- Warren County Buildings and Grounds Department
- Warren County Department of Engineering
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Road Department

Recommendation E4- Develop and train a network of volunteers to assist in greenway maintenance.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of unique educational, travel, and fitness experience;

Recommendations : *greenway-wide*

Project Description:

Volunteers can provide useful maintenance services if their efforts are carefully managed and result in a meaningful experience. Since different people are motivated to volunteer for different reasons, it is important to understand how the Morris Canal Greenway can help volunteers achieve personal satisfaction, learn new skills or productively socialize with others. A well-designed volunteer program can provide individuals and groups with opportunities to perform maintenance tasks for a single special event or on a continuing basis depending upon their level of commitment.

Recommendation(s):

Establish a program to encourage volunteer participation in maintenance activities.

- A. Identify and evaluate current volunteer contributions to maintenance to the Morris Canal Greenway. Solicit feedback from existing volunteers with regard to ideas for improving volunteer involvement.
- B. Contact other canal preservation organizations to discuss how they conduct their volunteer programs.
 - Learn how volunteer organizations, such as the Friends of the Delaware Canal Trail Tenders group and the D&L Trail Patrol recruit, orient, place, train, supervise, and retain volunteers, including how they record and recognize volunteer contributions.
 - Identify which of their volunteer maintenance practices are most suited to the organizational structure and condition of the Morris Canal.
 - Summarize the findings in a written report.
- C. Utilize the results of Tasks A and B to develop and implement a volunteer maintenance program for the Morris Canal Greenway.
 - Establish the overall goal of the volunteer maintenance program based upon the results of Project Strategies E1, E2 and E3.
 - Identify the duties and authority of the volunteer maintenance program coordinator and any on-site supervisors.
 - Recruit and train the coordinator and supervisors to carry out their responsibilities in accordance with the overall goal of the volunteer maintenance program.
 - Determine the maintenance tasks to be performed by volunteers and prepare a brief description of scope of work and skill set associated with each task. Identify the level of supervision needed for each task.
 - Develop and implement a strategy to publicize volunteer opportunities. Utilize the task descriptions to publicize volunteer opportunities using a variety of media outlets and direct contact with potential volunteers.
 - Establish a process for interviewing potential volunteers to assess their motivation and abilities in order to match them with appropriate tasks. Determine whether the interview process should include a background check.
 - Prepare materials to be used in orienting volunteers to the mission of the Morris Canal Greenway and the expected behavior and performance of volunteers.
 - Develop and test a process for training volunteers to complete their maintenance tasks and prepare associated training materials. The training process should include a performance evaluation so that any performance problems can be addressed.
 - Keep records of volunteer contributions for use in documenting support for the greenway in future grant applications.

Recommendations: *greenway-wide*

- Establish a means for recognizing individuals who volunteer.
- D. Evaluate the volunteer maintenance program after every major event and on an annual basis. Modify the program as needed.

Time Frame and Milestones:

- A and B. Complete tasks within 3 months
- C. Complete within 1 year
- D. Perform task on an on-going basis.

Costs:

Initial: \$11,000 (\$50/hour x 200 hours + \$25/hour x 40 hours)

Operational: Varies considerably depending upon scope and frequency of volunteer activities. Could require a seasonal or full-time staff person to serve as coordinator.

Potential Funding Sources:

- Private Corporations (See Implementation Agencies below)
- Warren County Open Space Trust Fund

Benefits:

Potential reduction in long-term maintenance responsibilities and costs through the use of volunteer labor. Potential additional income from increased visitation as a result of well-maintained facilities. Increased awareness, appreciation and pride in Morris Canal as a community asset through public participation in volunteer maintenance activities. Improved condition of the greenway.

Suggested Implementation Agencies:

- Highlands Project
- NJ Youth Corps
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department
- Volunteers including members of the general public, canal municipalities, community groups and potential representatives from the following businesses:
 - Avantor Performance Materials
 - Comcast Foundation
 - FirstEnergy Foundation
 - Mars Corporation
 - Verizon Foundation

Recommendations: *greenway-wide*

Recommendation E5- Explore options for financing long-term maintenance activities.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The Warren County Open Space Trust fund in combination with the NJDEP Green Areas Program currently provides significant funding for the acquisition of canal properties. However, no provisions have been made to obtain funds needed to pay for the continuing maintenance of the Morris Canal Greenway.

Recommendation(s):

Develop and implement a funding strategy to support long-term maintenance activities.

- A. Determine the extent to which the Warren County Open Space Trust Fund can be tapped to create a reserve fund, called an endowment, to be used to offset maintenance costs. Ideally, this fund should be large enough to generate sufficient interest to support maintenance activities without the need to spend the principal.
- B. Research how other land conservation organizations obtain a maintenance endowment from property owners willing to sell their land for conservation purposes. Establish a procedure for requesting a maintenance endowment from individuals interested in selling their land to the county as part of the Morris Canal Greenway.
- C. Establish the endowment or reserve fund based upon the results of Tasks A and B, making "catch-up" contributions to the endowment to cover the cost of maintaining properties already preserved and making additional contributions to cover the cost of maintaining newly acquired properties at the time of purchase.
- D. Compare the interest income with actual and needed maintenance expenditures on an annual basis, making any necessary adjustments to contribution procedures and the overall maintenance program.

Time Frame and Milestones:

- A-B. Complete within 3 years
- C. Complete within 5 years for properties already preserved and on an on-going basis for properties to be acquired.
- D. Complete annually.

Costs:

Initial: \$6,000 (\$50/hour x 120 hours) + the cost of endowment contributions

Recommendations: *greenway-wide*

Operational: Varies in accordance with the endowment investment procedure, interest income, number of new properties acquired necessitating new endowment contributions, etc.

Funding Sources:

- Private property owners
- Warren County

Benefits:

Improved financial support for long-term maintenance responsibilities. Improved understanding of the long-term management responsibilities associated with maintaining the integrity of the natural and historic features of existing preserved properties and future lands to be acquired.

Suggested Implementation Agencies:

- Board of Chosen Freeholders
- Board of Recreation Commissioners
- Warren County Land Preservation Department

Recommendation E6- Support Warren County Mosquito Commission efforts and continue to strengthen partnership to maintain sites

ision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... increases public and private support for and involvement in canal preservation efforts

Project Description:

The Warren County Mosquito Commission’s mission is: “to control mosquito populations that present a disease and/or nuisance threat, thereby protecting the health and welfare, as well as enhancing the outdoor enjoyment of the residents of Warren County in accordance with N. J. S. A. Title 26 : 9 and 26 : 3-46 Et. Seq., the Commission is “To perform all acts which, in its opinion, may be necessary for the elimination of mosquito breeding areas, or which will tend to exterminate mosquitoes within the county.”

Within their mission the Commission identifies elimination of mosquito breeding areas within the County. Given the nature of the Morris Canal as a man-made water body, many of abandoned portions still hold water to some extent.

In the past the Commission has worked on a limited basis in collaboration with both the Warren County Department of Planning and Warren County Morris Canal Committee to address specific locations seen as breeding “hot-spots.” Expansion of this collaborative relationship would be beneficial to all groups involved. Control and eradication projects completed by the Commission often correspond with locations requiring cleanup or clearing for completion of greenway associated improvements. This was the case with the recently completed clearing project off of Bilby Road.

Recommendations: *greenway-wide*

Promotion of these collaborative projects will help complete greenway projects and fulfill the goals of the Mosquito Commission.

The WCMCC should also help to identify potential areas of concern to the Mosquito Commission and should consider the potential for eliminating potential habitat during the design and construction of canal related projects. The WCMCC can also aid the commission in identifying ways to eliminate mosquito habitat while maintaining the integrity of the surrounding canal and related resources.

Recommendation(s):

- A. Work with the Warren County Mosquito Control Commission to identify breeding areas along the length of the greenway.
- B. Develop strategies to control mosquito populations and limit suitable breeding conditions which are also beneficial to the goals of the greenway.
- C. Identify and work to execute at least two key projects per year which provide greenway improvements and limit or eliminate mosquito breeding areas.

Time Frame and Milestones:

- A-B. Complete on an on-going basis
- C. Identify projects in late spring for inclusion in the following fiscal year's budget and completion in winter.

Costs:

Initial: Does Not Apply

Operational: Dependent on projects selected

Potential Funding Sources:

- Warren County Mosquito Commission Operating Budget
- Warren County

Benefits:

Combining projects and focusing on projects which will benefit both groups and will save implementation dollars by creating an economy of scale. Increased effectiveness of mosquito control efforts and quicker implementation of greenway improvement projects.

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Mosquito Control Commission
- Warren County Planning Department

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atement:

Recommendations: *greenway-wide*

Recommendation E7- Work closely with adjacent landowners during the development of new trail segments to identify and address potential security and privacy concerns

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Based on feedback from the public meetings and results of the land owner survey, the largest group of concerns surrounding the construction of the greenway trail was based on security and privacy issues. Even in areas where the proposed trail is located on public property, addressing these concerns will be critical to maintaining public support for completion of the greenway.

Addressing the concerns of individual land owners along the proposed trail route can be a challenging activity that will require individual solutions crafted to their situation. Looking to ways in which other greenway networks have dealt with these issues provides a good starting point.

Given proper time and consideration, addressing these concerns can be beneficial to the completion of the greenway. Taking time to listen and working with residents to address their concerns early in the process will set a precedent of public collaboration and involvement in trail creation. Sections of trail successfully completed in collaboration with land owners will serve as valuable examples of how the county is willing to work closely with the public to complete the greenway trail in way which is beneficial to all of the residents of the county. The more this precedent is reinforced the easier future negotiations will become.

Other regional greenway and trail efforts are currently utilizing a similar strategy of land owner involvement and education to alleviate potential concerns. The Master Plan for the Stroud Region Levee Loop Trail, proposed in Stroudsburg, Pennsylvania identifies the same common concerns shared among adjacent land owners. It recommends implementing a similar campaign of education about the actual impact of trails and involving land owners in decisions about security measures adjacent to their properties.

Recommendation(s):

- A. Engage adjacent land owners early in the process of trial routing, design and construction to identify ways to address their privacy and security concerns.
- B. Use successful projects as a public relations tool to promote future projects.

Time Frame and Milestones:

- A-B. Complete tasks on an on-going basis

Recommendations: *greenway-wide*

Costs:

Initial: Variable, project dependent

Operational: Variable, project dependent

Potential Funding Sources:

- Warren County

Benefits:

Building partners in trail design and construction will help to promote greenway trail construction as a positive activity for the general public.

Suggested Implementation Agencies:

- Warren County Board of Recreation
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation E8- Review liability concerns with the Board of Chosen Freeholders and prepare a landowner education package addressing liability concerns

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

Following security and privacy concerns associated with the proposed greenway trail, the next most common group of concerns were related to potential liability issues. Most of the issues directly related to a concern that trail users straying from the trail onto private property would hold the associated land owner liable in case of an accident.

Currently under New Jersey's, State's Recreational Use Statutes (NJ ST 2A:42A-2 to 2A:42A-10) a land owner has no liability to maintain or keep their property safe for persons entering their property, posted or not, for recreational activities. The statute also specifically describes an owner's responsibility, in the case of a conservation restriction, to maintain safe conditions. In these situations the owner is not liable for injury except where injury is the result of malicious intent or gross negligence on the part of the land owner. Even though the current laws provide a significant level of protection to a land owner against law suits, they do not limit the ability of these suits from being filed.

Recommendations: *greenway-wide*

To help avoid potential lawsuits and provide a more defensible platform in defense of one, land owners and public agencies can enact a number of simple steps to limit their potential for liability. These steps range from trail design standards to proper signage to enforcement of trail regulations. A good summary of these and other standards can be found in the Rails-To-Trails Conservancy's publication, entitled Rail-Trails and Liability (this document can be found in Appendix J). This document provides basic guidance on the types of liability protection a land owner, with a trail on or adjacent to their property, has against liability claims. It also provides recommendations for actions to further limit liability.

It is evident that liability of adjacent land owners is a very serious situation. It is an issue that needs to be dealt with in two pieces. First, the county must determine a clear and concise stance on their view point of liability issues surrounding the trail. Once this stance is developed it should be thoroughly reviewed by county council and then approved by the Freeholders.

The second part of addressing liability concerns is to educate the public about their potential liabilities, steps they can take to further limit these liabilities and the county's official stance on the topic. This should be accomplished with a pamphlet that can be provided to any landowner with a concern about these issues. These materials should be based, at least in part, on the aforementioned Rails-To-Trails publication.

Recommendation(s):

- A. Develop official policy on trail liability and indemnification of adjacent land owners.
- B. Have this policy reviewed and approved by both the Warren County council and the Board of Chosen Freeholders.
- C. Develop informational materials to provide to residents and concerned land owners.

Time Frame and Milestones:

- A. Develop policy immediately
- B. Complete freeholder approval within 10 months after completion of task A
- C. Completed within 18 months of task A

Costs:

Initial: Task A \$5,000 (\$50/hour x 100 hours)
Task B \$3,000 (\$150/hour x 20 hours)
Task C \$3,200 (\$50/hour x 24 hours + \$2,000 printing costs)

Operational: Does Not Apply

Funding Sources:

- Warren County

Benefits:

Once in place, such a policy could foster continued acquisitions thereby promoting heritage tourism. Efforts would provide guidance to help adjacent home owners to protect themselves from potential lawsuits. Public education efforts would also help to address specific public concerns about the construction of the trail and may open more parcels up to access agreements.

Recommendations : *greenway-wide*

Suggested Implementation Agencies:

- Warren County Department of Land Preservation
- Warren County Planning Department

Recommendation E9- Identify areas where ATVs are illegally accessing trail segments and take global measures to discourage access

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

Project Description:

The remote nature of many portions of the proposed greenway makes them attractive areas for ATV enthusiasts. Unfortunately, unauthorized ATV use presents a significant number of potential issues for the greenway. Studies have found that severe trail erosion and litter are the most frequent problems associated with unauthorized ATV use. In the case of the Morris Canal Greenway, these types of illegal activity also result in the creation of rogue trails and the significant potential of damaging historic canal related resources. In addition, ATV use increases the potential for legal liability issues associated with a potential accident. Finally, unauthorized ATV use along the greenway degrades the experience and enjoyment of other trail users along the way and creates potential for dangerous conflicts between pedestrians and ATVs.

ATVs will not be allowed to legally utilize the greenway trail, and enforcing this requires a multi-stepped approach. First, efforts to prohibit and post the trail in concert with increased enforcement by local police personnel. Second, restoration and repair of ATV damaged sections of trail will make them appear less like a trail, encouraging greenway users to stick to the designated path.

Efforts should begin with clear postings at all access points that ATVs and other motorized vehicles are strictly prohibited from the greenway. Signage should be clear and consistent along the entire length of the trail. In addition to signage, specific design features can be installed to prohibit ATV access at these locations. Trails can be blocked with closely spaced bollards or swinging gates. While chains, wire cables, trees and logs or other similar implements may seem like an easy solution, they are a barrier to horseback riders and bicyclists and require additional attention to make sure they measures are clearly visible and do not create additional trail hazards. Whichever enclosure method is selected, consideration should also be given to maintaining the potential to provide vehicular access for maintenance and emergency vehicles. Once the greenway has been clearly posted, greater law enforcement efforts will be needed to ensure the new policies are imposed.

The second task in addressing ATVs along the length of the greenway is to identify areas where access is currently occurring and take measures to discourage access and repair damages. It is likely that the majority of the reoccurring ATV damage along the proposed greenway will be limited to a small number of locations. When areas of damage are located, local police should be

Recommendations: *greenway-wide*

alerted and the specific location should be mapped using a GPS. It is important to identify and track these locations to be sure the measures utilized to discourage ATV access are effective.

It may also be effective to contact other local, county and state management agencies to assess the success of their provisions to prohibit ATV access. Many of these agencies are currently addressing similar issues on the properties they own and manage. There may also be potential to build partnerships to share enforcement responsibilities.

Recommendation(s):

- A. Install access control measures at all access points and trail heads. Focus first on those that are remote and do not benefit from being readily in the public eye.
- B. Include access control measures in all new trailheads and crossings.
- C. Identify and map locations of ATV access and damage
- D. Work with volunteer groups to repair damage and discourage future access.
- E. Revisit locations to assess efficacy of measures.

Time Frame and Milestones:

A-E. Complete all tasks on an on-going basis

Costs:

Initial: Tasks A and B: \$500 to \$1,000 per access point

Operational: None, assuming repairs can be completed using volunteer labor

Funding Sources:

- Warren County

Benefits:

Limiting ATV access reduces costs of repair and cleanup associated with ATV related damage. Without increased erosion and impacts of ATV use, overall trail experience will be more enjoyable for greenway user groups.

Suggested Implementation Agencies:

- Local Boy and Girl Scout Troops
- Highlands Project
- NJ Youth Corps
- Warren County Morris Canal Committee

Recommendations: *greenway-wide*

Recommendation E10- Develop and implement plan to identify and secure canal artifacts from removal, damage or defacing

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

During the period of this study, several smaller sized artifacts have been removed from locations along the greenway. Recent events have created an expanding market for scrap metal recycling and it is assumed that these artifacts were disposed of in this market. It is also likely that 'treasure hunters' may remove artifacts from locations along the greenway without seeing the harm. To dissuade these occurrences in the future and protect the heritage of the Morris Canal for future generations, a plan should be developed outlining the types of artifacts most threatened from theft or damage. It should also prioritize items based on their overall value as interpretive elements and identify ways in which these items can be secured.

Recommendation(s):

- A. Secure objects that are easily removable
- B. Commission a study to further catalogue, prioritize and secure artifacts from theft or damage on current properties and as new properties are acquired.

Time Frame and Milestones:

- A. Completed Immediately
- B. Complete within 1 year

Costs:

Initial: Task A: None, assumes tasks completed by WCMCC
Task B: Cost of study \$10,000 to \$15,000. Implementation costs dependent on findings and recommendations of study.

Operational: Dependent on findings and recommendations of the study.

Funding Sources:

- New Jersey Office of Historic Preservation
- New Jersey Preservation Trust
- Warren County Historical and Cultural Commission

Recommendations: *greenway-wide*

Benefits:

Preservation of historic artifacts will aid in sharing the story of the Morris Canal with a wider audience and enhance the public's enjoyment of the available historic resources.

Suggested Implementation Agencies:

- Local Historic Societies
- New Jersey Historic Preservation Trust
- New Jersey Office of Historic Preservation
- Warren County Historical and Cultural Commission
- Warren County Morris Canal Committee
- Warren County Planning Land Preservation Department

Land Use and Policy Recommendations

Successful attainment of greenway creation and canal preservation goals should be supported in the actions of the municipalities along the length of the canal. One of the largest influences local municipalities have on the success of the greenway is the way in which the goals of the 25-Year Master Plan are coordinated with general land use and policy decisions of that municipality. The range of ways in which these goals can be incorporated and supported is broad, but it generally falls into two general categories: land development decisions and planning efforts.

The Morris Canal Preservation Ordinance (MCPO) is the primary mechanism for inclusion of plan goals into land development decisions and projects. Many of the surrounding municipalities have not yet adopted the ordinance for a variety of reasons. Given the potential influence of the MCPO on the future shape of land development around the greenway, willing participation and support of this are key elements to the success of the plan.

The second category of support for the 25-Year Plan can be summarized as inclusion of its goals within other planning efforts. Simplified, the goals of the plan, greenway creation and canal preservation, should be included in future planning efforts for the municipalities along the canal. As more and more sections of greenway become established, its regional and local influence will become greater and greater. The larger this influence becomes, the more important inclusion of greenway goals and concepts into other decisions becomes.

Finally, to encourage participation on the local level, it is critical that municipalities build a sense of ownership and inclusion in greenway preservation efforts. As identified during the focus groups, better lines of communication between county staff and local officials about greenway efforts would go a long way to promoting ownership and inclusion.

These concepts form the basis of the Land Use and Policy Decision recommendations which follow.

Recommendations: *greenway-wide*

Legend



primary support of vision statement



secondary support of vision statement

Recommendation ID

Project Strategy

Greenway Wide: Land Use and Policy Recommendations

- F1 Encourage acceptance and support of the 25-Year Action Plan at the state and local levels
- F2 Update canal preservation ordinance and seek adoption/support at the state, county and local levels
- F3 Promote inclusion of trail connections and amenities in future planning studies and use decisions
- F4 Create a canal projects review body for County initiated projects which could potentially impact the canal or related resources
- F5 Build a county-wide Morris Canal Greenway Planning Group
- F6 Ensure Morris Canal is portrayed on maps produced and distributed by Warren County

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for, and involvement in canal preservation efforts.

Recommendation F1 - Encourage acceptance and support of the 25-Year Action Plan at the state and local levels.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

... interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

Project Description:

Achieving the goals of the 25-Year Action Plan require efforts well outside county staff and the WCMCC. Expanding these efforts requires demonstration of the benefits of greenway creation and canal preservation to other local and regional efforts.

Many of the critical decisions and actions proposed by the plan need to be executed on the local level or incorporated into the land use and planning decisions of these municipalities. Without acceptance and support of the action plan, these items cannot be accomplished. Acceptance and support of the plan needs to be greater than a simple statement; it should be encouraged through a continual dialogue between county staff and local officials. Acceptance and support of the plan on the local level should be seen as a reciprocal relationship with the county, meaning if a municipality accepts the plan and takes actions to support its goals, the county should provide aid as needed to back these actions. This support could come in simple forms, such as letters of support or acting as

Recommendations: *greenway-wide*

a co-applicant for grant submissions. County staff could also be more involved in preservation efforts in terms of coordination and execution of land owner negotiations and land acquisition activities.

Support on the wider, regional level is also critical for the success of the greenway within Warren County and across the state. The more counties along the canal which are actively engaged in greenway creation, the easier it will be to attain the goals of the plan and tap into additional funding sources. Some of these regional support services are already coming together, such as the recently formed Morris Canal working group implemented by the North Jersey Transportation Planning Authority, but formal support on the state level has not yet been attained. This level of formal support will be critical in guiding broader funding and planning decisions. An example of this could be allocations to state parks for canal specific projects.

Weather at the local or state levels, support for the 25-Year Action Plan should be legitimized and strengthened by adoption of a formal resolution supporting the plan and its goals. A formal resolution indicating support not only provides a clear and unambiguous message about the intent of the support, it also extends official support through changing boards and bodies.

Recommendation(s):

- A. Create and maintain an open line of communication between county staff and local municipal officials about the 25-Year Action Plan and its goals.
- B. Work with local municipalities in adopting formal resolutions demonstrating their support for the plan.
- C. Identify opportunities for the county and local municipalities to work in concert in the completion of greenway creation and canal preservation projects.
- D. Advance lines of communication to facilitate formal support of the plan at the state level.

Time Frame and Milestones:

- A,C. Complete on an on-going basis
- B. Complete for at least 50% of the municipalities along the trail within 8 months and 80% within 1 year.
- D. Initiate within 18 months and then complete on an on-going basis

Costs:

Initial: Staff time

Operational: Staff time

Potential Funding Sources:

- Warren County

Benefits:

Broader levels of official support demonstrate commitment on the behalf of state and municipal agencies, as well as the general public, for the recommendations of the action plan. Demonstrating this broader support puts the projects in a more desirable position to gain funding. Completion of more projects advances the goals of the plan.

Recommendations: *greenway-wide*

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation F2 - Update canal preservation ordinance and seek adoption/support at the state, county and local levels.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Project Description:

Revise the Canal Preservation Ordinance to encourage participation from the development community while maintaining preservation and access goals for the Canal and Canal Related Resources. The current ordinance is viewed by some developers and some municipalities as anti-development and as such it discourages adoption. Creating an ordinance which fosters more collaboration and has more clearly defined benefits for all parties will aid in its adoption and promotion.

Recommendation(s):

Revise the canal preservation ordinance to include the following strategies:

- A. Offer incentives for Canal preservation and provision of trail/greenway access through easement or dedication. Owner/Developer incentives could include density bonuses, relaxation of dimensional standards or expedited project reviews. Incentives to municipalities could include increased open space preservation and public access rights.
- B. Graduate incentives based on level of preservation or access provided, for example a narrow access easement may expedite the review process while dedication of the canal would result in density bonuses.
- C. Preservation of Canal and Greenway should not count negatively towards net area calculations.
- D. Promote coordination of open space and recreation requirements with greenway connections
- E. Inclusion of public access to greenway or suitable alternative route should be required in any version of the ordinance adopted and should be provided in any project developed under the ordinance.
- F. Expand the purview of the MCPO to extend potential incentives to properties not currently located adjacent to the canal, but which are identified by this report or other documents as creating a critical link for greenway creation.

Time Frame and Milestones:

A-F. 2 Years for ordinance rewrite, 3 Years for at least 75% of Municipalities to adopt

Recommendations: *greenway-wide*

Costs:

Initial: Staff time

Operational: Staff time

Potential Funding Sources:

- Warren County

Benefits:

A revised version of the MCPO will promote coordination of greenway goals with those of land development projects. Coordination of these goals early in the process will save money for both the developer in design fees and the municipality for legal and review fees. Inclusion of public access in new development projects along the greenway will promote trail connections. Residents of new developments will be provided the added benefit of trail connections within their neighborhood. Consideration of the greenway at the design stage will also allow the layout and design of new developments to respond to the future presence of the greenway and can therefore work to eliminate many of the potential security and privacy concerns.

Suggested Implementation Agencies:

- Local Planning Boards
- Warren County Planning Department

Recommendation F3 - Promote inclusion of trail connections and amenities in future planning studies and land use decisions.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Project Description:

Creation of the Morris Canal Greenway should be promoted as a continual theme in all planning documents created on the county and local levels. Many of the decisions and efforts enacted by other plans should respond to the greenway and the potential opportunities it presents. Examples could be showing the importance of potential greenway connections of recreation areas in an open space plan or the potential impacts of the greenway acknowledged in a municipal master plan update. Inclusion of the greenway should also extend to smaller studies and projects. An example of this could be seen in the Strykers Road improvement project where trail improvements were included in a project to replace a bridge. Consideration of future trail connections in smaller projects and studies will help to streamline creation of these connections in the future.

Recommendations: *greenway-wide*

Recommendation(s):

- A. Adopt a policy that any planning study or project reviewed by the Warren County Planning Department includes consideration of the greenway. At a minimum this should include ways in which a proposed project or recommendations of a study will impact or can support the greenway.

Time Frame and Milestones:

- A. Immediate

Costs:

Initial: Staff time

Operational: Staff time

Potential Funding Sources:

- Warren County

Benefits:

By considering the greenway in all projects, accommodations for connections, crossings or other amenities can be included as appropriate and avoid the potential for redesign or reconstruction at a later date to include these items.

Suggested Implementation Agencies:

- Local Planning Boards
- Warren County Planning Department

Recommendation F4 - Create canal projects review body for County initiated projects potentially impacting the canal and/or related resources.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...leverages the value of the canal to support sound land use planning decisions.

Project Description:

As identified in focus group conversations and other analysis, there is not currently a single point of contact for the regional review of impacts to Canal-related resources. Multiple organizations and County agencies are responsible for different potential impacts depending on the nature of the impact. Creation of a single reviewing body would aid in the coordination of larger efforts between various agencies and organizations.

Recommendations: *greenway-wide*

Recommendation(s):

A. Create Morris Canal Greenway Review Board:

- Board will be advisory in nature, but its input should be considered in the following instances at a minimum:
 - Land Development Applications
 - Land Acquisitions and Preservation
 - Site Improvements
- Board will be comprised of existing County Staff and Appointed Officials. At a minimum board should include members of the following departments, boards, and commissions:
 - Warren County Cultural & Heritage Commission
 - Warren County Department of Land Preservation
 - Warren County Morris Canal Committee
 - Warren County Board of Recreation Commissioners (with reconstitution per organizational recommendations)
 - Warren County Planning Department
 - Warren County Planning Board
- Members of the Board will serve as greenway ‘lobbyists’ to their home organization.

Time Frame and Milestones:

- A. Create official body and hold first meeting within 6 months

Costs:

Initial: Staff time

Operational: Staff time

Potential Funding Sources:

- Warren County

Benefits:

Ensures greenway creation and canal resource preservation is promoted and considered by local planning boards.

Suggested Implementation Agencies:

- Warren County Board of Recreation Commissioners
- Warren County Cultural & Heritage Commission
- Warren County Department of Land Preservation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation F5 - Build a county-wide Morris Canal Greenway Planning Group.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

As identified by the Municipal Official focus group, there is currently a lack of regional and local coordination of planning efforts surrounding greenway creation and canal preservation efforts. Additionally not all municipalities look upon the canal or greenway in a positive light, some even seeing these items as anti-progress. By creating a transparent working group and providing all nine municipalities an equal voice in greenway development and canal preservation initiatives, some of this negative sentiment can be diffused. This working group should be comprised of a planning board member from each municipality along the length of the greenway. Regular meetings of this group will also facilitate closes coordination of greenway efforts between neighboring municipalities. Finally, the hope is that members of this working group will represent canal and greenway related interests with their home planning boards.

Recommendation(s):

A. Create Morris Canal Planning Board Working Group

- Group should meet on a quarterly basis or more frequently as needed
- Group will be comprised of one member from each municipality, as well as a representative of the county planning department
- A member of the Warren County Morris Canal Committee should also be selected to contribute
- Leadership of the group should be elected by the group

Time Frame and Milestones:

- A. Working group to be selected and hold their first meeting within 12 months

Costs:

Initial: Staff time

Operational: Staff time

Potential Funding Sources:

- Warren County

Recommendations: *greenway-wide*

Benefits:

Better regional coordination and discussion of greenway wide land development and planning issues will help to coordinate greenway goals on a regional level. Also, periodic discussion of the greenway by members of local planning boards will help to keep creation of the greenway as an active topic at the local level.

Suggested Implementation Agencies:

- Local Planning Boards
- Warren County Planning Department

Recommendation F6 - Ensure Morris Canal is portrayed on maps produced and distributed by Warren County

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

Any land use decisions made to properties containing to or adjacent to the greenway will have some impact on how the greenway develops. Given this, all land use decisions and approvals which have the ability, or will in the future, to make a greenway connection or provide public access should be encouraged to do so. This extends past the requirements of the Morris Canal Preservation Ordinance, to those projects which impact the greenway yet do not fall under the purview of the ordinance.

Recommendation(s):

- A. During review of future subdivision and land development applications, identify opportunities for potential trail connections and amenities and include these requests in the formal review from county planning staff.

Time Frame and Milestones:

- A. Perform on an on-going basis

Costs:

Initial: Does Not Apply

Operational: Does Not Apply

Recommendations: *greenway-wide*

Potential Funding Sources:

Does Not Apply

Benefits:

Addition of trail amenities and connections in land development projects will save county and municipalities money in acquisitions and trail improvement projects as they are completed by private groups. Such projects throughout the county will increase the accessibility and quality of new portions of the greenway. Consideration of these improvements as an integral part of a project will also address the potential barriers posed by addition of greenway connections and amenities after a project's completion.

Suggested Implementation Agencies:

- Warren County Planning Department

Recommendations: *greenway-wide*

Public Participation Recommendations

Since its inception, the WCMCC has made significant strides in preserving and interpreting the Morris Canal for the public's enjoyment. However, many of these achievements have been accomplished by a handful of dedicated individuals who have predominantly relied on their own unique abilities and county staff for support. The time is ripe for the WCMCC to appreciate its own success and understand that it cannot accomplish the 25-Year Action Plan without considerable assistance from outside sources.

In seeking outside help, the WCMCC should carefully solicit different kinds of assistance so that it develops meaningful and long-lasting relationships with those who can best advance the vision of the 25-Year Action Plan. Interaction with other canal preservation organizations in the region can allow the WCMCC to modify useful canal management and heritage tourism programs already developed by their peers rather than creating them from scratch. Public support for the Morris Canal Greenway can be expanded if the WCMCC is receptive to utilizing volunteers from environmental, educational and recreational organizations to complete aspects of the 25-Year Action Plan related to the enhancement of natural features, interpretation of greenway resources and the development of a towpath trail, respectively. Professional expertise should be sought for complex preservation projects. Lastly, the WCMCC should work with communities and media outlets to maximize public awareness of canal preservation activities.

Recommendations: *greenway-wide*

Legend



primary support of vision statement



secondary support of vision statement

Recommendation ID

Project Strategy

Greenway Wide: Public Participation Strategies

- G1** Participate in NJTPA Morris Canal Working Group
- G2** Ask D&L National Heritage Corridor to serve as mentor
- G3** Host peer-to-peer conference in collaboration with the Friends of the Delaware Canal
- G4** Participate in canal, historic preservation and heritage tourism conferences and training programs.
- G5** Expand Volunteer Support
- G6** Continue technical partnership with NJRCD with regard to canal stabilization/restoration
- G7** Build public support and increase greenway awareness with informational displays at key community events
- G8** Develop a "Press Kit" containing information to support media interest in canal activities

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for and involvement in canal preservation efforts.

Recommendation G1 - Participate in the NJTPA Morris Canal Working Group.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

The WCMCC would benefit from regular interaction with representatives of other governmental agencies and community groups working to preserve the Morris Canal across the State of New Jersey in order to keep abreast of their progress and learn from their experiences. In response to growing interest in the preservation of the Morris Canal, North Jersey Transportation Planning Authority has established a working group of stakeholders to discuss issues related to canal preservation and facilitate networking.

Recommendations: *greenway-wide*

Recommendation(s):

- A. Attend the NJTPA Morris Canal Working Group meetings.
- Encourage all members of the WCMCC and key county staff to take turns attending the meetings to help build relationships with other stakeholders.
 - Offer to make a presentation to the group on WCMCC accomplishments on a yearly basis.
 - Suggest that the location of the working group meetings be rotated in order to allow participants to visit key site along the canal to build increase knowledge and awareness of the status of preservation efforts. Offer to host a meeting in Warren County with a tour of key canal sites.
 - Suggest that NJTPA use the working group meetings to provide a forum for the discussion of fundraising techniques, maintenance practices, heritage tourism development, volunteer involvement and other issues of interest to stakeholders.

Time Frame and Milestones:

- A. Complete on an on-going basis

Costs:

Initial: This recommendation focuses on the tasks associated with continued participation in the NJTPA Morris Canal Working Group meetings and therefore does not involved any initial costs.

Operational: Assumes attendance at four working group meetings each year.
\$2,400 annually (\$50/hour x 8 hours x 4 meetings + \$25/hour x 8 hours x 4 meetings)

Potential Funding Sources:

- Warren County

Benefits:

Potential revenue from collaborating with other Morris Canal preservation organizations to facilitate fundraising and heritage tourism. Potential reduction in management costs due to the sharing of information. Enhanced capacity of WCMCC and county staff to complete canal preservation projects through participation in NJTPA working group activities.

Suggested Implementation Agencies:

- North Jersey Transportation Planning Authority
- Warren County Board of Recreation
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation G2 - Ask the D&L National Heritage Corridor to serve as a mentor.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

The leadership and staff of the D&L National Heritage Corridor (D&L) possesses more than twenty-five years of experience in establishing and overseeing a federally designated heritage area in collaboration with numerous state, county and local stakeholders. The close proximity of this organization to Warren County makes it convenient to open a dialogue with its representatives who can provide advice on many aspects of canal preservation, especially with regard to a volunteer maintenance program and educational activities for schools.

Recommendation(s):

Meet with D&L representatives to request advisory assistance in implementing the 25-Year Action Plan.

- A. Discuss the recommendations of the 25-Year Action Plan with D&L representatives and identify how they can best support the WCMCC in implementing specific projects.
- B. Enter into a Memorandum of Understanding to formalize the relationship and confirm the type of assistance to be provided, as appropriate. Modify the memorandum as needed.

Time Frame and Milestones:

- A. Complete within 1 year
- B. Complete on an on-going basis as needed

Costs:

Initial: \$1,000

Operational: Budget \$1,000 annually for occasional interaction, with the understanding that the completion of major initiatives may require additional funding.

Potential Funding Sources:

- Warren County

Benefits:

Potential increase in revenue resulting from heritage tourism efforts completed with assistance from D&L and the reduction in expenses resulting from collaboration. Enhanced capacity of WCMCC and county staff to complete canal preservation projects as a result of mentoring from the D&L National Heritage Corridor.

Recommendations: *greenway-wide*

Suggested Implementation Agencies:

- Delaware & Lehigh National Heritage Corridor
- Warren County Board of Recreation
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation G3 -Host Peer-to-Peer Conference in collaboration with the Friends of the Delaware Canal.

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Project Description:

Networking with peer organizations is good way of learning new approaches to developing different aspects of the Morris Canal Greenway. Many networking opportunities will involve traveling to out-of-town events to interact with other greenway development advocates. However, the WCMCC should sponsor a peer-to-peer conference to bring such expertise to the Morris Canal. The Friends of the Delaware Canal hosted such an event several years ago that was successful in attracting representatives from canal preservation groups throughout the Mid-Atlantic Region who exchanged many useful ideas on a variety of topics.

Recommendation(s):

Work with the Friends of the Delaware Canal to co-host a Peer-to-Peer Conference.

- A. Meet with the Friends of the Delaware Canal to discuss how the prior conference was planned and conducted and how responsibilities of hosting a new conference can be shared.
- B. Present the findings of Task A to the NJTPA Morris Canal working group to gauge this group's interest in planning and attending such a conference featuring the Morris Canal. Also contact the prior conference participants to determine their interest in attending another event highlighting the Morris Canal.
- C. Plan and conduct the conference based upon the feedback received including its location, date, length, content, accommodations, publicity, etc.
- D. Solicit feedback from conference attendees to document the success of the event and thank them for their participation.

Recommendations: *greenway-wide*

Time Frame and Milestones:

- A. Complete within 1 month
- B. Completion based upon the schedule of NJTPA meetings
- C-D. Complete within 1 year

Costs:

Initial: \$17,000 (\$25/hour x 480 hours + \$50/hour x 80 hours + \$1,000 expenses)

Operational: This recommendation does not assume that this conference would be repeated on a regular basis, so no operational costs are included.

Potential Funding Sources:

- National Trust for Historic Preservation
- New Jersey Historical Commission
- Warren County General Fund

Benefits:

Potential revenue from conference participants visiting Warren County. Potential revenue from the implementation of techniques learned to protect historic sites, promote heritage tourism and successfully raise funds to support preservation. Enhanced capacity of WCMCC and county staff to complete canal preservation projects as a result of conference activities.

Suggested Implementation Agencies:

- Friends of the Delaware Canal
- Members of the NJTPA working group, if interested
- Warren County Board of Recreation
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation G4 - Participate in canal, historic preservation and heritage tourism conferences and training programs

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.

Recommendations: *greenway-wide*

Project Description:

A number of organizations host conferences and/or training programs focusing on the preservation of historic sites, the promotion of these sites as heritage tourism destinations and fundraising. To stay up-to-date on preservation and tourism trends, member of the WCMCC and county staff should attend these events to gather pertinent information that can be used to develop the Morris Canal Greenway.

Recommendation(s):

Attend at least one conference or training program per year.

A. Research the training programs and conferences sponsored by historic preservation and tourism organizations including, but not limited to:

- Alliance of National Heritage Areas
- New Jersey Conservation Foundation
- National Park Service
- National Trust for Historic Preservation
- New Jersey Historical Commission
- New Jersey Travel and Industry Association
- World Canals Conference

B. Participate in those events that feature those sessions and activities best suited to the informational needs of the WCMCC.

Time Frame and Milestones:

A-B. Complete on an on-going basis depending upon conference and training program schedules and content.

Costs:

Initial: This recommendation focuses on the tasks associated with continual participation in training activities and therefore does not involved any initial costs.

Operational: \$1,000 annually

Potential Funding Sources:

- Warren County

Benefits:

Potential revenue from the implementation of techniques learned to protect historic sites, promote heritage tourism and successfully raise funds to support preservation. Enhanced capacity of WCMCC and county staff to complete canal preservation projects as a result of training and conference activities.

Recommendations: *greenway-wide*

Suggested Implementation Agencies:

- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendation G5 - Expand volunteer support

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

The WCMCC will need to continue its current relationships with volunteers and provide opportunities to increase volunteer involvement in order to implement the entire 25-Year Action Plan in a cost effective manner. There are a number of constituents that could contribute the expertise and manpower needed to develop the greenway if the WCMCC broadens its approach to public engagement.

Recommendation(s):

Seek volunteer support from those who are interested in greenway development for reasons other than canal preservation – such as natural resource protection, recreation use and educational purposes.

- A. Continue relationship with the Highlands Project and the NJ Youth Conservation Corps to complete projects with volunteer labor. Tailor projects to help participants build job and other life-long skills i.e., masonry and carpentry tasks to help maintain canal structures.
- B. Partner with conservation based organizations to improve and maintain wildlife habitat and sponsor nature-related educational and recreational activities along the canal. Groups such as the NJ Audubon and NJ Sierra Club may be able to help with habitat enhancement projects (tree planting, meadow restoration, bird boxes, interpretive signs, etc).
- C. Partner with other trail and greenway organizations to develop, maintain and promote the greenway trail. The NY-NJ Trail Conference regularly hosts hikes and trail maintenance events throughout the region. Bicycle clubs, such as the Morris Area Freewheelers, may be willing to sponsor rides along the canal and assist with trail development and maintenance as well. Land trusts can be approached to assist with acquisition projects to develop the greenway.
- D. Collaborate with scout troops to provide canal-based programs in exchange for completed volunteer projects. Troop leaders are always looking for opportunities to enable their troop members to complete projects needed to receive badges and awards. Many of these activities require that the troops volunteer to help their communities.

Recommendations: *greenway-wide*

Time Frame and Milestones:

A-D. Begin within 1 year and complete on an on-going basis.

Costs:

Initial: This recommendation focuses on enhancing a volunteer participation program that has already been started. Therefore, no initial costs are involved.

Operational: \$4,000 annually (\$25/hour x 160 hours) + project expenses

Potential Funding Sources:

- Private donors supporting volunteer organizations
- Volunteer organizations
- Warren County

Benefits:

Potential reduction in long-term maintenance and programming responsibilities and costs through the use of volunteer labor. Potential additional income from increased visitation resulting from well-maintained facilities and a wider variety of activities and programs for the public. Increased awareness, appreciation and pride in Morris Canal as a community asset through public participation in maintenance projects and various recreational and education programs. Improved condition of the greenway and a greater diversity of recreational activities and educational programs for the public.

Suggested Implementation Agencies:

- Bicycle Clubs
- Boy and Girl Scout Troops
- Highlands Project
- Land Trusts
- NJ Sierra Club
- NJ Youth Conservation Corps
- NY-NJ Trails Conference

Recommendation G6 - Continue technical partnership with NJRC&D with regard to canal stabilization/restoration

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Recommendations: *greenway-wide*

Project Description:

North Jersey Resource Conservation and Development has significant expertise in the protection of water resources through the application of various techniques to manage stormwater runoff and control erosion and sedimentation. This expertise is especially valuable in stabilizing and restoring damaged sections of the canal and in maintaining the water features of the Morris Canal Greenway.

Recommendation(s):

Continue to seek technical assistance from NJRC&D on water resource management issues within the greenway.

- A. Consider asking NJRC&D to provide input on baseline condition and initial maintenance assessments as needed to address stormwater management and erosion problems along the canal.
- B. Involve NJRC&D in the design of major canal preservation projects requiring stormwater management and erosion and sedimentation controls.

Time Frame and Milestones:

A-B. Complete as needed.

Costs:

Initial: This recommendation focuses on enhancing a working relationship that has already been established. Therefore, no initial costs are involved.

Operational: \$200 per request for assistance with baseline and maintenance assessments. Cost of Task B varies depending upon scope of design work.

Potential Funding Sources:

- North Jersey Resource Conservation and Development (and any grant funds it can obtain)
- Warren County

Benefits:

Potential reduction in long-term maintenance costs due to proper use of stormwater management methods and erosion and sedimentation controls. Protection of the canal from the adverse effects of stormwater runoff and erosion problems.

Suggested Implementation Agencies:

- North Jersey Resource Conservation and Development
- Warren County Engineering Department
- Warren County Land Preservation Department
- Warren County Planning Department

Recommendations: *greenway-wide*

Recommendation G7 - Build public support and increase greenway awareness with informational displays at key community events

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

The Warren County Fair and community day events sponsored by local communities are some of the many public events held each year that can provide opportunities for the WCMCC to publicize its activities to generate support for the Morris Canal Greenway.

Recommendation(s):

Interact directly with the public at major community events to stimulate the public's interest in and awareness of canal preservation activities.

- A. Identify regional, county and municipal events that would allow the WCMCC to provide an informational booth about the Morris Canal. Understand the terms of reserving and operating a booth at these events and assess the cost/benefit of event participation.
- B. Develop materials for display at the booth along with any associated activities and handouts. If possible, create displays that can be tailored to the programmatic, geographical and demographical characteristics of the event. Utilize existing interpretive and promotional resources (signs and brochures) as appropriate to minimize expenses.
- C. Sponsor a booth at two major events per year, selecting those events that offer the greatest potential benefit.
- D. Critique the results of event participation. Modify the booth display, activities and handouts accordingly and as needed to incorporate new information.

Time Frame and Milestones:

A-D. Complete within 1 year

C and D. Complete on an on-going basis

Costs:

Initial: \$5,000 for Tasks A and B (\$2,500 for new displays + \$25/hour x 100 hours)

Operational: \$2,000 annually for Tasks C and D (\$25/hour x 80 hours)

Potential Funding Sources:

- Private donors
- Tourism Cares for Tomorrow
- Warren County General Fund

Recommendations: *greenway-wide*

Benefits:

Potential increase in financial support for canal preservation efforts due to better public awareness of WCMCC activities. Increased appreciation for the work of the WCMCC and understanding of how tax dollars and other public contributions are being used to preserve the Morris Canal.

Suggested Implementation Agencies:

- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Public Information

Recommendation G8 - Develop a “Press Kit” containing information to support media interest in canal activities

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

Media attention is an important tool in raising public awareness of the value of canal preservation activities. However, this attention can sometimes come unexpectedly, increasing the possibility that media coverage may not include the kind of information desired by the WCMCC. While the Morris Canal Greenway website contains useful information for the general public, it should be enhanced to provide quick facts to make the most of media interest.

Recommendation(s):

Improve the Morris Canal Greenway website to provide useful information to support media inquiries.

- A. Personalize the WCMCC by adding biographical information about its members.
- B. Provide a timetable of significant canal preservation accomplishments.
- C. Provide fact sheets with photos summarizing major completed projects along with brief summaries of projects currently underway.
- D. Create a photo gallery of key canal features in a digital format suitable for media use.
- E. Provide contact information on the person responsible for handling media inquiries.
- F. Include links to recent media coverage.
- G. Update information on at least an annual basis, if not monthly.

Recommendations: *greenway-wide*

Time Frame and Milestones:

A-E. Complete within 6 months

F-G. Complete on an on-going basis.

Costs:

Initial: \$4,000 (\$50/hour x 80 hours) + professional photography, if desired

Operational: \$1,000 (\$50/hour x 20 hours) annually

Potential Funding Sources:

- Warren County

Benefits:

Potential increase in financial support for canal preservation efforts due to better public awareness of WCMCC activities. Increased appreciation for the work of the WCMCC and understanding of how tax dollars and other public contributions are being used to preserve the Morris Canal.

Suggested Implementation Agencies:

- Volunteers
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department
- Warren County Public Information

Recommendations: *greenway-wide*

Organizational Structure Alternatives

The current organizational structure needs to be assessed to prepare for the wide-ranging responsibilities associated with implementing the 25-Year Action Plan. The following analysis explores three different organizational options to address the challenges outlined above:

- Use Existing Authorities
- Consider a New Organizational Structure
- Strive for Heritage Area Designation

The sequence of these alternatives is intended to show how existing capacity can be adapted and built upon to achieve the complete vision for the Morris Canal Greenway. Elements within each alternative may be completed independently of others within that alternative or in combination with portions of multiple alternatives. However, some select items are contingent on the execution of all the elements within an alternative.

Alternative 1 - Use Existing Authorities

This option assumes that the Planning Department's existing staffing relationship with the WCMCC and its current functional relationships with the Planning Board and Board of Recreation Commissioners will remain "as is". For maintenance activities, it is assumed that the relationships with the County Planning Department, Land Preservation Department, County Engineering Office, Bridge Department, Road Department and Buildings and Grounds Department will be continued. Maintenance will also be provided through MOA's and contracts with the Highlands Project Inc, the New Jersey Youth Corps, and when needed, supplemented by private contract. Morris Canal Committee members and other volunteers will also continue to play a vital role in the maintenance and management of the Canal. This structure is viable in its current form, as evidenced by its accomplishments to date. Some of the challenges faced by the WCMCC can be addressed using the existing organizational structure by taking relatively simple steps to enhance its operation:

- **Reach out** to individuals who attended public meetings about the 25-Year Action Plan and expressed an interest in canal preservation activities. Ask them to be members of the WCMCC or assist in implementing WCMCC projects as volunteers.
- **Utilize the press** to inform the public about the status of canal preservation work, attract new WCMCC members and request financial and in-kind contributions. Develop a way for donors to be recognized for their contribution.
- **Develop financial policies and procedures** for tracking, allocating and distributing private donations targeted for canal improvement projects.
- **Host an annual county Open Space Forum** to bring the WCMCC together with representatives from a variety of other public and private agencies to discuss common goals and streamline preservation efforts of the Morris Canal.⁴⁷ This strategy was mentioned specifically in the County Open Space Plan of 2008.

⁴⁷ As recommended in the Warren County Open Space and Recreation Plan. Warren County Planning Department. 1999 and June 2, 2008 Update. Page 122.

Recommendations: *greenway-wide*

- **Meet regularly with each municipality** through which the Morris Canal passes to encourage adoption of the Planning Department’s model ordinance to protect the canal. Use this meeting as an opportunity to discuss how local conservation activities can be physically and programmatically linked to the canal.
- **Network** with organizations from Essex, Hudson, Morris, Passaic and Sussex Counties to keep abreast of the status of Morris Canal preservation activities across the state in anticipation of pursuing heritage area status with these groups in the future. Attend state and national conferences to learn about the methods used by other historical organizations to successfully implement comparable preservation projects.

However, this approach does not explore ways of streamlining the county’s departmental management of canal conservation work, providing the structure needed to maintain an increasing number of preserved properties, and implementing new educational programs. It merely relies on existing personnel and WCMCC capabilities to continue preservation activities and, in a sense, “landbank” preserved canal lands for future use. This structure is not sufficient to raise conservation activities to a level that will achieve the entire vision for the Morris Canal Greenway.

Alternative 2 - Consider a New Organizational Structure

Modifications to the existing WCMCC organizational structure can build additional capacity, increase momentum and broaden public support for canal preservation activities beyond those steps mentioned above. The final scope of these modifications will determine whether changes in committee and/or board bylaws and departmental responsibilities are needed to facilitate a new organizational structure. The outcome may be modest changes to improve management efficiency and provide new avenues for public participation or a complete redesign of the WCMCC structure. Such modifications should be carefully evaluated and implemented to insure that the best parts of the existing structure are not lost and the new elements revitalize the WCMCC in a way that generates more enthusiasm for canal conservation efforts. Therefore, the following factors should be considered in assessing the long-term value of making a major organizational change.

- **Develop a formal relationship with NJDEP State Park Service.** A draft Memorandum of Understanding (MOU) was prepared in 2004, but never adopted, outlining the desire of Warren County and the NJDEP to formalize its collaborative efforts to preserve and manage the canal along its entire length for historic, recreational and educational purposes. A strong relationship with NJDEP is critical to utilizing Stephens and Allamuchy State Parks, and possibly a restored Waterloo Village, as the eastern anchor for Warren County’s portion of the Morris Canal Greenway. The membership of the WCMCC could be expanded to include representation from NJDEP State Parks to facilitate interaction with this agency.
- **Consider establishing working groups to accomplish specific tasks.** Since the WCMCC bylaws allow for the formation of subcommittees to serve specific functions, working groups can be used to assist the WCMCC in implementing the various aspects of the vision for the Morris Canal Greenway. For example, the public participation process revealed that there are a number of local educators eager to develop canal-based curriculum for school districts in the county. Rather than limiting involvement in a curriculum development project to a few members of the WCMCC who are already heavily involved with other responsibilities, consider establishing an Educational Working Group consisting of interested local educators, the County Superintendent of Schools and a representative of the WCMCC with the authority to develop canal-based curriculum on behalf of the WCMCC. Similar working groups can be created to provide support on the conservation, recreation and economic development elements of the vision as well.

Recommendations: *greenway-wide*

- **Expand membership on the WCMCC** to include representatives from the educational, conservation, recreation, tourism and economic development sectors in keeping with the vision for the greenway. Additional members may be needed if the WCMCC desires equal representation from each of the municipalities through which the canal passes. Municipal representation can provide another avenue for local communities to keep up-to-date on and participation in canal preservation activities. The success of working groups, especially those groups that can play a continuing role in canal preservation efforts, can also warrant the need for full representation on the WCMCC. These individuals can serve as voting members of the WCMCC or in an advisory capacity (a voting membership position is likely to result in an individual having a greater vested interest in the accomplishments of the WCMCC).
- **Encourage the formation of canal preservation committees at the municipal level.** In addition to municipalities appointing a representative to the WCMCC, local historical societies may be encouraged to form their own committees dedicated to identifying and implementing canal preservation projects. Depending on the project, the committees could seek funding assistance from the New Jersey Historical Commission, obtaining mini-grant (up to \$3,000) and special project grants (\$3,000 to \$15,000) that would help offset the need to rely entirely on significant private donations.
- **Explore collaborative opportunities with the Warren County Cultural and Heritage Commission (WCCHC)**, created in 1972 to “promote public interest in local and county history, the arts, and in the cultural values, goals, and traditions of the community, county, state, and the nation”⁴⁸ in addition to the performing following tasks:
 - “Undertake the restoration, operation, maintenance and preservation of real property acquired by the county...;
 - Establish museum and cultural programs, exhibits and displays, including fine and performing arts...;
 - Engage in archaeological, genealogical, and historical research, and public reports and histories...;
 - Encourage artistic residents to display their arts and crafts for the purpose of contributing to the public’s cultural enjoyment...
 - Locate historic areas and preserve them where possible...and
 - Cooperate with other county cultural commissions, with the New Jersey Council on the arts, and local historically-oriented agencies whether public or private.”

The most notable accomplishments of the nine-member WCCHC include the preservation and restoration of Shippen Manor and Oxford Furnace, in addition to the development of a variety of arts and cultural education programs for the public. This organization is supported by a staff curator and Friends of Shippen, a separate non-profit corporation with volunteers who provide guided tours of the Manor and help with operational tasks.⁴⁹ The activities of the WCCHC are thematically linked to the activities of the Warren County Morris Canal Committee in that the Oxford Furnace and the Morris Canal were both developing simultaneously in the same region during the Industrial Revolution. However, communication between the Warren County Morris Canal Committee and the WCCHC is limited, even though there is an historical connection between these two groups. Collaboration with and assistance from the WCCHC should be pursued because of its expertise in conducting cultural events, managing artifacts and raising private donations collaboration and assistance from the WCCHC should be pursued.

⁴⁸ Bylaws of the Warren County Cultural and Heritage Commission, latest revision January 18, 2007. Page 2.

⁴⁹ Warren County Cultural and Heritage Commission. <http://www.wcchc.org/>

Recommendations: *greenway-wide*

- **Explore opportunities with The Canal Society of New Jersey.** This society is actively working to revitalize Waterloo Village, Lock 4 West and Lock 5 West in collaboration with the NJDEP State Parks, in addition to supporting canal preservation initiatives across the state. The success of these projects can compliment efforts by Warren County to preserve the Morris Canal and create memorable educational and recreational opportunities for residents and visitors. The society’s participation in the public meetings associated with the 25-Year Action Plan show that there is a desire for collaboration with the WCMCC.
- **Consider reconstituting the Board of Recreation Commissioners (WCBRC).** The purview of the WCBRC (which was established pursuant to N.J.S.A. 40:12-1 et.seq.) includes the acquisition and maintenance of the Morris Canal, holding canal-related events and activities for the general public and promoting the canal’s legacy in the schools. To ensure that the WCBRC adequately addresses canal preservation issues, the county should consider expanding the Board’s membership to formally include individuals having an interest in protecting the Morris Canal. In addition, the county should also evaluate the synergistic advantages of including representation on the Board from other county-wide conservation initiatives such as the Musconetcong Wild and Scenic River, Warren Heritage Scenic Byway and the Warren Highlands Trail (Cross County Trail) to maximize the economic development benefits that could be derived from coordinating these programs. Such representation could consist of official membership on the WCBRC or a subcommittee with an advisory function. This analysis may reveal that canal preservation efforts might be enhanced if the WCMCC was to become a subcommittee to the Board of Recreation Commissioners. Such changes would necessitate action by the Board of Chosen Freeholders and require an update to the bylaws of both groups and an assessment of any associated changes to the supporting roles played by the Planning and Land Preservation Departments.
- **Consider creating an Open Space Coordinator position.** In accordance with a recommendation of the 2008 Warren County Open Space and Recreation Plan, a coordinator of management activities could be established with the Land Preservation or the Planning Departments with the responsibility of coordinating and supervising maintenance, development, and other activities on county lands. The results of the public participation process identified the need to have additional staff collaborate with the WCMCC to: (1) monitor, maintain and patrol preserved canal properties; (2) organize, publicize and expand educational, recreational and volunteer programs; and (3) develop physical and economic development connections with local communities. The county should review its records to document how much time staff currently spends on canal activities on a yearly basis in order to determine if the responsibilities described above necessitate a full-time or part-time position and to develop an appropriate job description and pay scale. The Open Space Trust Fund is a potential source of funding source for such a position.
- **Consider Combining the Board of Recreation Commissioners and the Morris Canal Committee** into one new Board. The Board of Recreation Commissioners was created in accordance with N.J.S.A 40:12-1 et seq. A new board could be set up independent of state statute that would combine the duties and responsibilities of the current Board of Recreation Commissioners and the Morris Canal Committee. The new board could be staffed by both the Warren County Planning Department and the Warren County Department of Land Preservation. In the current organizational structure, acquisition, maintenance and management issues are raised at Morris Canal Committee meetings. If planning staff cannot resolve the issue(s), the Department of Land Preservation is then contacted subsequent to the meeting or the issue is deferred to the Board of Recreation Commissioners. Under the new board structure, when these types of issues are raised on Morris Canal properties, Land Preservation staff would be in attendance to discuss. The proposed change in organizational structure would require action of the Freeholder Board, and a clear description of the roles and responsibilities of the Planning Department and Land Preservation for the new board. It is possible that both departments would be able to complement each other’s strengths and be able to provide services to the board in an effective manner.

Recommendations: *greenway-wide*

- **Consider redistributing canal preservation responsibilities.** The WCMCC has benefited over the years from the administrative and technical support provided by the Planning Department, given its experience in integrating land use, open space and transportation planning activities on a county-wide scale. With the establishment of the Open Space Trust Fund and the purchase of a substantial amount of canal land, the role of the Land Preservation Department and the Board of Recreation Commissioners in creating the Morris Canal Greenway has grown over time. The work associated with managing more canal property has increased proportionately too, adding to the Land Preservation Department's and Planning Department's workload.
- **Consider shifting administrative and technical support responsibilities for the Morris Canal Committee** from the Planning Department to the Land Preservation Department since land conservation has been and will continue to be the core of the county's efforts to preserve the Morris Canal and the Open Space Trust Fund and is likely to remain the primary source of funding for this initiative. This shift should be done with the understanding that the Planning Department's regional perspective is still needed for the success of the 25-Year Action Plan. The Land Preservation Department staff could then be considered for expansion to include the proposed Open Space Coordinator previously described. If it is decided that the Land Preservation Department should focus only on land acquisition, then the Morris Canal Committee could remain with the Planning Department and the canal maintenance and management responsibilities could be transferred from the Land Preservation Department to the Planning Department or other appropriate county department. Another option would be for the proposed Open Space Coordinator to become the nucleus of a new department created to perform these functions.
- **Consider housing the Planning and Land Preservation Departments in one location.** The amount of coordination and cooperation that is needed between the two departments prompts consideration of relocating the Land Preservation Department to the County Administration Building to improve interdepartmental collaboration and interaction with the support services provided by the County Engineering Office. Some staffing, functional, and operational efficiencies could result by these functions being in close proximity to each other if adequate office space can be found in the Administration Building to facilitate this change. An analysis should be conducted to assess the feasibility of accommodating the Land Preservation Department at the County Administration Building.
- **Foster interdepartmental communication.** Regardless of the administrative changes described above, interdepartmental communication can be improved by sharing the minutes of the WCMCC meetings with other county representatives with other county boards and commissions to provide the latest information on canal preservation projects. Regularly scheduled interdepartmental staff meetings could be held to address specific projects such as land development proposals impacting canal preservation, major canal improvement projects or significant maintenance issues.
- **Evaluate funding sources and mechanisms.** The advantages of creating a new non-profit organization to solicit and receive funds from the private sector were discussed during the planning



Oxford Furnace in mid-restoration
Photo courtesy the Warren County Cultural and Heritage Commission

Recommendations: *greenway-wide*

process. An analysis of potential funding sources and anticipated revenue should be investigated before time and money is invested in creating a new non-profit. Many funding sources do not donate to non-profit organizations during the first few years of their existence until these organizations have established a track record of success. This delay in funding may not be worthwhile if the county can create a system for receiving and utilizing donations permitted by the WCMCC bylaws or if the Friends of Shippen would be willing to accept donations for canal projects on behalf of the WCMCC. Current federal tax laws do allow individuals to count donations to local governments as charitable contributions, as long as the donations are used solely for a public purpose.



If a decision is made to establish a new non-profit organization to assist the county in implementing the 25-Year Action Plan, then the Friends of the Delaware Canal (FODC) is a good, nearby administrative model to use, since its function and scope mimics many of the characteristics of Warren County's efforts to preserve the Morris Canal. The FODC supports the preservation of the Delaware Canal throughout Bucks County in collaboration with the Delaware Canal State Park. Its 11-member Board of Directors, 8-member Advisory Board and Executive Director operate an interpretive center from its headquarters in a restored locktender's house in the Borough of New Hope, PA. Five committees support the Board of Directors, similar to the working groups previously recommended, by performing the organization's preservation work as follows:

- Advocacy, Restoration and Maintenance Committee – responsible for maintenance and the planning and implementation of capital improvement projects.
- Education and Recreation Committee – responsible for exhibits, signage and programs.
- Finance Committee – responsible for receipts, payments and other financial matters.
- Fundraising Committee – responsible for volunteer coordination and income generating activities.
- Membership Committee – solicits new members and serves existing membership.

The results of these investigative tasks will uncover the strengths and weaknesses of the existing WCMCC organizational structure and shed light on how modifications to this structure can best position the WCMCC to implement the entire vision of the 25-Year Action Plan for the Morris Canal Greenway.



Recommendations: *greenway-wide*

Alternative 3 – Strive for Heritage Area Designation

“A national heritage area is a place designated by Congress where natural, cultural, historic and scenic resources combine to form a cohesive, nationally distinctive landscape arising from patterns of human activity shaped by geography. These patterns make National Heritage Areas representative of the national experience through the physical features that remain and the traditions that have evolved in them. Continued use of National Heritage Areas by people whose traditions helped to shape the landscapes enhances their significance.”⁵⁰

The history of the Morris Canal – its purpose, physical location, resource diversity and integrity, role in the formation of local communities and industries, impact on the growth of our nation, and current preservation efforts – are characteristics that can be used to support a national heritage area designation. The prevalence of Morris Canal conservation activities in surrounding counties makes it reasonable to assume that the Morris Canal Greenway from Phillipsburg to Jersey City has the potential of becoming a state and national heritage area in the future. Two nearby heritage areas provide insight into how the activities of the Warren County might evolve into a heritage area in collaboration with other counties through which the Morris Canal passes.

- **Crossroads of the American Revolution.** This heritage area was established in recognition of New Jersey’s strategic location between the British forces headquartered in New York City and the Continental Congress in Philadelphia during the Revolutionary War. A state heritage area designation encompassing all or parts of 14 counties was granted on August 5, 2005 by Executive Order #48 by Richard J. Codey, Acting Governor of New Jersey. A national heritage area designation was awarded by an act of the U.S. Congress on October 12, 2006 (Public Law 109-338). As the only existing state and national heritage area in New Jersey, The Crossroads of the American Revolution Association is managed by a 501(c)(3) non-profit organization funded in part by the National Park Service, New Jersey Historical Commission, a Division of Cultural Affairs in the Department of State, and the PSEG Foundation. The headquarters of the association is at the Morristown National Historic Park in Morris County. An executive director (position currently vacant) provides sole staff support to a board of directors consisting of leaders from state and local government, business and industry and education and conservation organizations. Primary responsibilities of the executive director include promoting awareness and visibility of the heritage area and building partnerships to implement the corridor management plan (presently in draft form). Heritage area funding from the federal government can not be used to buy land but can be used to:
 - Prepare and implement a corridor management plan;
 - Hire staff with selected expertise;
 - Obtain funds or services from other sources;
 - Contract for goods and services; and
 - Support any activity that is consistent with and furthers the corridor management plan.
- **Delaware & Lehigh Canal National Heritage Corridor (D&L Corridor).** “In 1978, the Delaware Canal was declared a National Historic Landmark, and portions of the Lehigh Navigation Canal were placed on the National Register of Historic Places and designated a National Recreation Trail.”⁵¹ Visionary community leaders from the public and private sectors subsequently joined forces to pursue a heritage area designation, volunteering many hours to this grassroots effort. In 1988, the U.S. Congress established the Delaware and Lehigh Navigation Canal National Heritage Corridor due to its role of these canals in “transforming Pennsylvania from an agrarian region to the center of an

⁵⁰ National Park Service. <http://www.nps.gov/history/heritageareas/FAQ/>

⁵¹ The Delaware and Lehigh Navigation Canal National Heritage Corridor Act of 1988, Public Law 1090-692, 100th Congress. November 18, 1988.

Recommendations: *greenway-wide*

industrialized society.”⁵² The Commonwealth of Pennsylvania subsequently designated this 5-county region a State Heritage Area in 1993. The authority to manage the heritage area was given to a 21-member commission consisting of 8 individuals from the general public, 8 representatives of local government, and one representative each from the National Park Service, PA Dept. of Environmental Resources, PA Dept. of Community Affairs, PA Dept. of Commerce/Economic Development Partnership and the PA Historical and Museum Commission. This commission has been replaced by a non-profit organization governed by a board of directors in response to the phase-out of federal funding. Day-to-day operations are



The Morris Canal Arch in Phillipsburg

performed in by a 12-member staff consisting of a president, vice president, director of advancement and administration, anthracite towns coordinator, landmark towns coordinator, outreach coordinator, stewardship and trail manager, corridor resource specialist, resource conservation specialist, accounting manager, and two administrative assistants. These individuals have experience in natural and historic resource protection, recreation planning and programming, education, land and construction management, community and economic development, and fundraising. Services are provided through three separate offices in Bristol, Easton (main office) and Lehighton, PA.

- The D&L Corridor offers several programs in conjunction with local stakeholders.
 - The Trail Tenders “are dedicated men, women and youth who maintain and enhance the 165-mile D&L Trail,”⁵³ which follows rail-trail and canal towpath routes, “by eradicating invasive plants and replacing them with native grasses, wildflowers, shrubs and trees,...maintaining the physical integrity of historic structures such as canal locks and railroad turntables, performing regular site cleanups,...and building picnic tables, benches and bicycle racks for the benefit of trail users.”⁵⁴ A complementary Trail Patrol program has been established to monitor trail use.
 - The “D&L Trail Alliance brings together municipal, state and non-profit landowners to coordinate the stewardship and promotion of the D&L Trail. The Alliance includes a Stewardship Council of land managers who own or manage portions of the D&L Trail and three regional councils that include partners, volunteers, and concerned citizens in the northern, central and southern sections of the Corridor. The Stewardship Council is working to develop stewardship guidelines for the maintenance of the trail, which ensures that best management practices and sustainable trail development are consistently implemented along the entire trail. The regional councils provide technical assistance to the Alliance and attend to local trail issues, such as building volunteer capacity, marketing, and programming...A major goal...is to promote awareness of the long-distance connectivity that the D&L Trail provides and the many economic, health and recreational benefits for the public”⁵⁵

⁵² Ibid.

⁵³ Delaware & Lehigh National Heritage Corridor. <http://www.delawareandlehigh.org/index.php/volunteer/program/dl-trail-tenders/>

⁵⁴ Ibid.

⁵⁵ Delaware & Lehigh National Heritage Corridor. <http://www.delawareandlehigh.org/index.php/community-outreach/program/dl-trail-alliance/>

Recommendations: *greenway-wide*

- The Landmark Towns project “is a regional economic development initiative of four boroughs located along the Delaware Canal and River...Each has a traditional historic downtown business district. The Landmark Towns project is designed to help these small towns breathe renewed economic life into their business districts, while preserving and enhancing the industrial and cultural heritage they share.” Using “the four-point Main Street revitalization approach – promotion, organization, economic development and design,”⁵⁶ town representatives work with D&L’s professional Main Street coordinator to develop and administer a Regional Downtown Revitalization Plan with funds from local, state and federal sources.

Since a heritage area designation represents a significant commitment in time and financial resources to maximize its benefit, Warren County should work with representatives of Essex, Hudson, Morris, Passaic and Sussex Counties to pursue a state and national heritage area designation to minimize duplication of effort and reap the potential benefits of a regional heritage area. Some initial steps include:

- Open a dialog with the National Park Service to fully understand the long-term commitment and partner collaboration required to establish a heritage area. Congress typically authorizes a national heritage area “for a ten-year period”⁵⁷ and provides “limited federal financial assistance of up to one million dollars per year. The designating legislation authorizes the Secretary of the Interior to provide technical assistance to the heritage area through its managing entity. The intent of the federal investment is to provide seed money that can be leveraged locally for the preservation and interpretation of heritage area resources. The effort is directed



A trail along the canal in the D&L Corridor.
Image courtesy www.delawareandlehigh.org

by a local management entity that, upon designation, develops a comprehensive plan for the heritage area. The plan contains strategies for natural and cultural resource protection; plans for interpretation of resources based on themes for the area; and a methodology for including various public and private partners in its implementation. Partnerships and local commitments are keys to the success of the enterprise. The management plan requires the approval of the Secretary of the Interior.”⁵⁸ In 2006, the National Park Service prepared a Sustainability Study Report⁵⁹ summarizing the accomplishments achieved and challenges faced by the D&L Corridor since its inception, providing an excellent view into the day-to-day workings of a canal-based heritage area. The National Park Service can guide stakeholders in developing a management structure and financing approach to meet the needs of the proposed heritage area.

⁵⁶ Delaware & Lehigh National Heritage Corridor. <http://www.delawareandlehigh.org/index.php/community-outreach/program/landmark-towns-project/>

⁵⁷ Crossroads of the American Revolution in New Jersey - Special Resource Study, National Heritage Area Feasibility Study and Environmental Assessment. National Park Service. August 2002. Page 62.

⁵⁸ Ibid. Pages 62 and 63.

⁵⁹ Connecting Stories, Landscapes, and People: Exploring the Delaware & Lehigh National Heritage Corridor Partnership – Sustainability Study Report – A Technical Assistance Project for the Delaware & Lehigh National Heritage Corridor Commission and the Delaware & Lehigh National Heritage Corridor, Inc. Conservation Study Institute, Northeast Region, National Park Service. 2006.

Recommendations: *greenway-wide*

- Understand how the new organizational structure presented in Alternative 2 can support a future heritage area designation. The county should seek the advice of representatives of The Crossroads of the American Revolution National Heritage Area and the Delaware and Lehigh Canal National Heritage Corridor in restructuring its canal preservation responsibilities so that newly created duties and staff positions can support a future heritage area. Note that heritage areas are a unique blend of traditional park programs, cultural/educational activities and economic development initiatives that require a certain mix of skills to build the partnerships needed for their success. Careful consideration should therefore be given as to how the county should restructure its canal preservation efforts to achieve the entire vision for the 25-Year Action Plan.
- Seek assistance from the State of New Jersey's Heritage Tourism Task Force. Having recently completed its Heritage Tourism Plan, the Task Force is in the process of identifying regions to be included in a pilot program to test recommended strategies to promote heritage tourism⁶⁰. The county should contact the Task Force to request assistance and find out how it can help advocate for state support of heritage tourism activities.
- Host cultural heritage tourism workshops offered by the National Trust for Historic Preservation. This non-profit organization can tailor a workshop specific to the needs of the Morris Canal Greenway whether it's a general introduction to heritage tourism or a focused session on interpretation, marketing, visitor-oriented customer service or strategic planning.



Delaware Canal Trail Tenders erect a sign for Lehigh Canal Park.
Image courtesy carboncountymagazine.com

⁶⁰ Linking Our Legacy to a New Vision – A Heritage Tourism Plan for New Jersey – Master Plan. New Jersey Heritage Tourism Task Force. Trenton, NJ. June 2010. Page 27.

Recommendations: *greenway-wide*

Organizational Structure Recommendations

The existing organizational structure of the Warren County Morris Canal Committee in conjunction with the county government support staff has been successful in preserving many canal resources through land/easement acquisition and archaeological investigations, developing interpretive facilities and programs, and performing routine maintenance. However, continued preservation work will require new partnerships, improved interdepartmental coordination and a broader funding base. A reassessment of the existing organizational structure is needed to reveal opportunities for expanding the management and financial capabilities of the county in order to achieve the vision for the canal.

Legend

-  primary support of vision statement
-  secondary support of vision statement

Recommendation ID

Project Strategy

Greenway Wide: Organizational Structure

- H1 Alternative 1 - Use Existing Authorities
- H2 Alternative 2 - Consider a New Organizational Structure
- H3 Alternative 3 - Pursue Heritage Area Designation

Vision Statement

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals

tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.

interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

provides convenient access to a towpath trail for non-motorized passive recreational use as an integral part of a unique educational, travel and fitness experience.

stimulates the local economy through heritage tourism.

leverages the value of the canal to support sound land use planning decisions.

increases public and private support for and involvement in canal preservation efforts.

H1						
H2						
H3						

Recommendations: *greenway-wide*

Alternative 1, Recommendation H1: Use Existing Authorities

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

...leverages the value of the canal to support sound land use planning decisions.

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

The existing organizational structure can be used to implement several procedures to increase public awareness and involvement in canal preservation activities, particularly with regard to facilitating productive relationships with a variety of stakeholders. However, this approach does not build organizational capacity to significantly advance canal preservation efforts beyond their current scope and pace.

Recommendation(s):

Enact measures to improve public appreciation and participation in greenway development.

- A. Reach out to individuals who attended public meetings about the 25-Year Action Plan and expressed an interest in canal preservation activities.
 - Keep records of participants who attended Action Plan meetings and invite them to join the WCMCC, attend upcoming events and/or volunteer.
- B. Utilize the press, internet and social media outlets to inform the public about the status of canal preservation work and attract new WCMCC members, volunteers and donors.
 - Prepare and maintain a list of media representatives and contact information for use in notifying them of WCMCC activities.
 - Find out the preferred procedure and format for notifying these media outlets of WCMCC news
 - Notify the media of WCMCC activities as appropriate. Make sure the notifications include information on how the public can support greenway development efforts (i.e., make donations, volunteer, etc.)
 - Use the media attention to recognize the contributions of donors and volunteers.
- C. Develop financial policies and procedures for tracking, allocating and distributing private donations targeted for canal improvement projects.
 - Work with county finance personnel to develop appropriate accounting procedures to record cash and in-kind goods and service contributions.
 - Document contributions in a financial report on a monthly basis.
- D. Host an annual county Open Space Forum to bring the WCMCC together with representatives from a variety of other public and private agencies to discuss common goals for the Morris Canal.
 - Develop and conduct the program to highlight key accomplishments and future projects associated with greenway development, including a tour of key sites as appropriate.

Recommendations: *greenway-wide*

- Include opportunities for participants to present their plans for contributing to canal preservation efforts.
- E. Meet regularly with each municipality through which the Morris Canal passes to encourage adoption of the Planning Department's model ordinance to protect the canal.
- F. Network with organizations from Essex, Hudson, Morris, Passaic and Sussex Counties to keep abreast of the status of Morris Canal preservation activities across the state in anticipation of pursuing heritage area status.

Time Frame and Milestones:

- A. Complete within 1 month of each Action Plan meeting.
- B. Complete on an on-going basis.
- C. Complete within 3 months.
- D-E. Complete on an annual basis.
- F. Complete on an on-going basis.

Costs:

Initial: Utilize existing staff and funding resources

Operational: Utilize existing staff and funding resources

Funding Sources:

- Warren County

Benefits:

Potential revenue and/or cost savings resulting from increased public participation, media publicity, improved financial procedures and networking. Broader support for canal preservation activities due to increase knowledge and awareness of greenway development efforts and adoption of land use policies to preserve the canal in otherwise unprotected areas.

Suggested Implementation Agencies:

- Warren County Board of Chosen Freeholders
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Recommendations: *greenway-wide*

Alternative 2, Recommendation H2: Consider a new organization structure

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.

...leverages the value of the canal to support sound land use planning decisions.

...increases public and private support for and involvement in canal preservation efforts.

Project Description:

A new organizational model is needed to increase the administrative capacity needed to undertake many of the 25-Year Action Plan recommendations. These changes should include efforts to improve the county's ability to support WCMCC activities through the formation of key partnerships, hiring of new staff, and enhanced interdepartmental collaboration.

Recommendation(s):

Modify the existing organizational structure to enhance administrative functions.

A. Develop a formal relationship with NJDEP State Parks.

- Meet with representatives of NJDEP State Parks to critique the previous draft agreement. Modify the agreement as needed prior to execution by the Board of Chosen Freeholders.

B. Consider establishing working groups to accomplish specific tasks.

- Identify major projects that would benefit from the input of working groups and the skills needed.
- Establish procedures for working groups to use in conducting business on behalf of the WCMCC, reporting on their progress and developing the needed work products.
- Form the working groups to include members of the public with appropriate skills.
- Monitor and support their activities through project completion, obtaining feedback on ways to improve working group performance.

C. Expand membership on the WCMCC to include representatives from the educational, conservation, recreation, and economic development sectors in keeping with the vision for the greenway along with municipal representation.

- Review bylaws and existing membership characteristics to identify additional expertise and input needed.
- Modify and enact new bylaws as needed to accommodate all perspectives with approval of the Board of Chosen Freeholders.
- Solicit new members to fill gaps in representation.

Recommendations: *greenway-wide*

- D. Encourage the formation of canal preservation committees at the municipal level.
- Discuss the need for local government involvement in greenway development activities with municipal leaders.
 - Evaluate the feasibility of establishing a new canal preservation committee in each municipality or using an existing committee for this purpose.
 - Work with each municipality to establish a committee and set forth its function and relationship with WCMCC, including its role in greenway preservation, education, recreation and fundraising activities.
- E. Explore collaborative opportunities with the Warren County Cultural and Heritage Commission (WCCHC).
- Meet with representatives of the WCCHC to discuss the feasibility of joint ventures in light of current bylaw provisions.
 - Identify those collaborative opportunities best suited to facilitate the implementation of the 25-Year Action Plan
 - Modify existing bylaws as needed to memorialize any new relationship with approval of the Board of Chosen Freeholders.
- F. Explore collaborative opportunities with The Canal Society of New Jersey (CSNJ).
- Meet with Society representatives to discuss the status of canal preservation activities and identify opportunities to collaborate on specific projects.
 - Present the results of the discussion to the WCMCC and CSNJ membership for concurrence.
 - Enter into a collaborative agreement as appropriate to formalize the partnership and document responsibilities.
 - Meet annually to review the progress of joint initiatives.
- G. Consider reconstituting the Board of Recreation Commissioners.
- Meet with the Board of Recreation Commissioners to review current bylaw provisions and discuss ways to improve coordination of activities between the BRC and WCMCC.
 - Modify the bylaws as needed with approval from the Board of Chosen Freeholders.
- H. Create an Open Space Coordinator position.
- Develop a job description and pay scale for an Open Space Coordinator, assigning responsibilities associated with implementing the 25-Year Action Plan. This information can be described in the County Open Space Plan.
 - Determine the placement of the Open Space Coordinator position within the county's organizational structure.
 - Advertise and hire the coordinator with approval from the Board of Chosen Freeholders.
- I. Consider redistributing canal preservation responsibilities.
- Hold a meeting to evaluate the manner in which the county staff currently supports WCMCC activities.
 - Identify ways of redistributing WCMCC administrative support responsibilities to maximize their effectiveness.
 - Redistribute responsibilities as needed to improve administrative support with approval from the Board of Chosen Freeholders.
- J. Consider housing the Planning and Land Preservation Departments in one location.

Recommendations: *greenway-wide*

- Evaluate the office space/facility needs and interdepartmental communication requirements of the Planning and Land Preservation Departments in comparison to existing office accommodations.
- Relocate offices to improve interdepartmental communication if such accommodations can be made.

K. Foster interdepartmental communication.

- Hold a meeting to discuss interdepartmental communication needs as they relate to canal preservation efforts, identifying any gaps.
- Develop and implement procedures to improve interdepartmental communication. Evaluate the success of these procedures on an on-going basis.

L. Evaluate funding sources and mechanisms.

- Discuss the pros and cons of creating a non-profit organization to solicit and receive donations for greenway development projects including, but not limited to, an evaluation of the:
 - Potential funding sources that could not otherwise be tapped.
 - Need to clarify responsibilities of the non-profit in relationship to the management of county-owned lands.
 - Need for a new avenue of communication with the non-profit's leadership.
 - Potential loss of control over fundraising practices in addition to project priorities and expenditures.
 - Logistics (legal and accounting issues) of raising funds to be spent on property not controlled by the non-profit.
 - Existence of individuals interested in forming and managing the non-profit.

Time Frame and Milestones:

- A,C,E,F-L. Complete within 5 years
- B,D. Complete on an on-going basis

Costs:

Initial: Task A: Utilize existing staff and funding resources
Task B: \$1,500 (\$50/hour x 30 hours)
Task C: Utilize existing staff and funding resources
Task D: \$5,000 (\$50/hour x 80 hours)
Task E: Utilize existing staff and funding resources
Task F: \$3,000 (\$25/hour x 80 hours + \$50/hour x 20 hours)
Task G-L: Utilize existing staff and funding resources

Operational: Task A-C: Utilize existing staff and funding resources
Task D: \$4,000 annually (\$50/hour x 80 hours)
Task E: Utilize existing staff and funding resources
Task F: \$2,000 (\$25/hour x 80 hours)
Task G: Utilize existing staff and funding resources
Task H: \$80,000 annually for new personnel (includes full-time salary, benefits and cost of quarters)
Task I-L: Utilize existing staff and funding resources

Funding Sources:

- Warren County

Recommendations: *greenway-wide*

Benefits:

Potential cost savings resulting from improved administrative efficiency and fundraising ability. Expenditures for new staff may be offset by increased capacity to broaden public support for greenway development activities. Better coordination of stakeholders will improve ability to preserve canal resources and create open space and trail linkages.

Suggested Implementation Agencies:

- Local municipalities through which the canal passes
- New Jersey Department of Environmental Protection - State Parks
- The Canal Society of New Jersey
- Warren County Board of Recreation Commissioners
- Warren County Cultural and Heritage Commission
- Warren County Land Preservation Department
- Warren County Morris Canal Committee
- Warren County Planning Department

Alternative 3, Recommendation H3: Pursue Heritage Area designation

Vision Statement:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that...

...stimulates the local economy through heritage tourism.

Project Description:

The pursuit and operation of a heritage area designation requires significant organizational resources to capitalize on the heritage tourism potential of the Morris Canal Greenway. Warren County should carefully prepare for designation by implementing the recommendations of Alternatives 2 and 3 and exploring the benefits and obligations of a heritage area designation with county, state and national partners.

Recommendation(s):

Begin to position the Morris Canal Greenway for heritage area designation by improving the organizational structure and obtaining technical assistance from heritage area experts.

- A. Open a dialog with the National Park Service to fully understand the long-term commitment and partner collaboration required to establish a heritage area.
 - Host a meeting with National Park Service representatives to show them the Morris Canal Greenway and discuss the heritage designation process with greenway stakeholders.

Recommendations: *greenway-wide*

- Invite representatives from NJDEP State Parks and other counties involved in Morris Canal preservation activities.
 - Maintain regular contact as needed in preparation for a formal request for designation and associated funding support..
- B. Understand how the new organizational structure presented in Alternative 2 can support a future heritage area designation.
- Review the recommended organizational changes with the National Park Service in light of the administrative structures typically associated with heritage areas.
 - Modify the organizational changes as appropriate based upon the input received.
- C. Seek assistance from the New Jersey Heritage Tourism Task Force.
- Present the Morris Canal Greenway project at a task force meeting and request pilot program assistance in establishing a heritage tourism area.
 - Maintain regular contact as needed.
- D. Host cultural heritage tourism workshops.
- Ask the National Trust for Historic Preservation to conduct introductory workshops on establishing a heritage area to prepare for designation.
 - Invite representatives from NJDEP State Parks and other counties involved in Morris Canal preservation activities.

Time Frame and Milestones:

A-D: 5 to 25-year implementation process in preparation of possible Heritage Area designation

Costs:

Initial: \$50,000 budget for labor, conferences, workshops and technical support services from state and national agencies in preparation for designation.

Operational: None, unless heritage area designation is pursued.

Funding Sources:

- American Express
- National Park Service
- New Jersey Historic Trust

Benefits:

Potential revenue from heritage tourism. Improve administrative capacity of county to pursue heritage tourism designation with support of key partners.

Suggested Implementation Agencies:

- National Park Service
- New Jersey Heritage Tourism Task Force
- Other counties through which the Morris Canal passes

Recommendations : *greenway-wide*

Recommendations: *greenway-wide*