Cayuga-Seneca Canalway Trail Phase II Study

Waterloo & Seneca Falls, New York
Seneca County

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1. EXECUTIVE SUMMARY



INTRODUCTION

The purpose of the Cayuga-Seneca Canalway Trail Phase II Study (Phase II Trail Study) is to develop and evaluate concepts and alternative route scenarios for a 3+/- mile trail that would connect the end of the existing Cayuga-Seneca Canalway Trail Phase I in Waterloo to the existing end of the Ludovico Sculpture Trail in Seneca Falls. The Phase II Trail Study builds on previously completed planning initiatives that have occurred in and adjacent to the study area – primarily the efforts of the Cayuga-Seneca Canal Trail Association and the Cayuga-Seneca Canal Trail Master Plan: Geneva to Seneca Falls (2005).

The Phase II Trail Study was guided by the following objectives:

- · Establishing active transportation connections with neighboring communities
- Enhanced and increased use of the Cayuga-Seneca Canal
- Connecting residents with the regional trail network
- Providing opportunities for universal access
- Improving access to walking and bicycling facilities
- Protecting and enhance existing resources
- · Emphasizing sustainability and maintainability
- Maintaining user safety

The potential trail corridor as outlined in the Master Plan is primarily comprised of an inactive railroad corridor mainly owned by NYSEG, and is currently used to access utilities and a few businesses at the Village of Waterloo end. There are some other public right-of-way and other private landowners along the potential trail corridor.

The planning process for this study included outreach to both the general public and to key stakeholders. Representatives from various organizations served on the steering committee and provided continuity, guidance and study oversight.

Please see Figure 1 at the end of this section for an illustration of the project location.

INVENTORY AND ANALYSIS

A comprehensive inventory and analysis of existing conditions in and around the study area was completed. Topography, soils, ecological character, habitat, drainage, wetlands, land use and property ownership, destinations, access, transportation/circulation, trail user profile, infrastructure and utilities were all evaluated. Other than property owned by NYSEG and other private owners, none of these factors present a significant constraint to the development of a trail in the study area. The study addresses a number of opportunities and constraints, which includes:

- connectivity to existing trail systems
- connection between Waterloo and Seneca Falls communities to access restaurants and businesses
- active transportation
- scenic views
- propertyownership
- bridges
- historic resources; and
- habitat diversity

Issues, Opportunities and Constraints were identified and addressed in the Alternatives Analysis phase.

ALTERNATIVES CONSIDERED

The Phase II Trail Study was primarily focused on assessing the feasibility of moving forward with the next phases – designing and constructing the trail. Alternatives were developed by carefully evaluating the data gathered in the inventory and analysis and melding it with the public engagement and input.

The team focused on the west end of the study area first, where there were some areas of concern, issues, and potential alignment obstacles.

Potential routes that were considered and sketched included alternates on both the north and south sides of the canal, along the entire length of the former rail corridor, the potential use of the now-closed Gorhan Street bridge and the constraints at the Water Falls Bridge. East of the Water Falls bridge, the potential issues were considered to be fewer and more manageable.

The alternatives analysis led the team to the recommended a preferred alignment for the Phase II trail which were based on the following driving factors:

- Stay on the south side of the canal, and as close to the canal as possible
- The trail route should traverse to the lock (at the Waterloo end)
- Avoid a trail alignment along main roads East River Street/River Road
- Minimize impacts to adjacent residential properties
- Enhance travel convenience and opportunities for pedestrians and bicyclists
- Alignment to enhance local economic development benefits bring people 'downtown'

Alternate Trail routes studied included lands at the Waterloo Container facility and the DeVivi facility property (opposite Kingdom Road) and a trail spur alignment to provide access to the Suader's complex on the south side or East River Road.

The alternative analysis and associated field work focused on providing a trail alignment that would meet the project goals and objectives while addressing public input, concerns and potential impacts.

PUBLIC PARTICIPATION PLAN

From the very beginning of the project – and working directly with the project Steering Committee - a thorough and transparent Public Participation Plan (PPP) was prepared and implemented throughout the process. The PPP and engagement plan included stakeholder interviews, field walks, public meetings, project websites, social media engagement and press releases and an on-line survey. The meetings included mapping exercises to explore potential routes where residents and community members worked together from the very beginning and concurrently throughout the investigations, inventory and analysis phases.

Feedback, comments and input were obtained continuously throughout seven planned and schedule events and surveys. Healthy and open exchanges were the norm throughout.

At the conclusion of the those efforts, some of the major comments, concerns and suggestions included:

- Most stated the existing Phase I trail has been positive for the community; some who were opposed have changed their opinion to the positive side
- Property impacts to residents and loss of privacy are a concern
- Safety: for residents and trail users
- Provide wayfinding signage to Waterloo business district; enhance tourism
- Provide traffic calming measures (at trail/traffic interface locations)
- Trail screening: use fast growing plans and fences and provide buffers to residents
- Access point suggestions: at the water plant, Kingdom Road, Water Falls Bridge, end of Ludovico Trail
- DeVivi property use is not an option, unless the property is purchased

Though most input received on the Phase I Trail was positive, there was expressed opposition to a proposed Phase II trail from some neighbors in the Distillery Avenue area and some of their adjacent neighbors (extending to Gorham Street). A petition was circulated and submitted to the County. Primarily, those opposed do not want the trail in close proximity to their properties/residences, raising concerns for safety, loss of privacy and the potential for trash and debris along the trail.

RECOMMENDATIONS

Alignment Description: The preferred alignment represents the culmination of all input by the Public, the Steering Committee and the consultant team. The preferred Phase II Trail alignment:

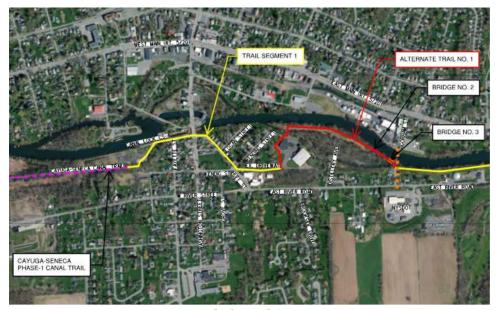
- meets the main project goals and objectives by providing connections and a viable trail link between Waterloo and /Seneca Falls
- stays in close proximity to the canal as much as feasible, and traverses to Lock 4
- avoids a route along River Road
- avoids properties that encroach on the former railroad bed
- respects the opposition raised by some of the residents by recommending a route that traverses around the Distillery Avenue opposition area
- follows the prior rail alignment where feasible
- provides a solution to the constraint at the Water Falls Bridge
- avoids DeVivi property impacts
- provides a trail spur to Sauder's
- recommends trail heads, access points and gathering nodes at the west end near the canal lock, at the water plant and at the Ludovico Trail connection

- provides signage guidance for wayfinding and interpretation
- provides screening recommendations
- provides Design Details and Trail Construction Standards

At approximately 3 miles in length, Phase II of the Cayuga-Seneca Canalway Trail is a significant undertaking. Due to the complexity and various site conditions within the Phase II study area, the preferred trail alignment has been broken down into four segments for clarification and identity:

- Segment 1 Cayuga-Seneca Canalway Phase I Trail (east end of trail) to Gorham Street
- Segment 2 Gorham Street to Water Falls Bridge
- Segment 3 Water Falls Bridge to Kingdom Road
- Segment 4 Kingdom Road to Ludovico Sculpture Trail (west end of trail) at Elks Club Lodge

Segment 1 begins at the east end of the existing Phase I Trail, at the existing trailhead parking area at the end of Huff Street. The trail would head east along Huff Street to the Canals Lock CS-4 to Washington Street then continuing down Huff Street to Kendig Street. The trail would then turn east down the existing access driveway to the Waterloo Container Facility (NYSEG property/old railroad corridor). At Washington Street, a specially designed safe crossing (e.g., flashing beacons, specialized striping, an elevated or tabled crosswalk, etc.) will be needed. At the Waterloo Container Facility (Waterloo Contractors Property), the preferred route includes Alternate Alignment No. 1, which is to head north-northwest through the property and back to the canal via an existing gated access point to parallel the overhead powerline alignment adjacent to the canal. A new bridge would need to be constructed across open water at the west end of the property, at the approach to Gorham Street.



Recommended Trail Segment 1 Map

Segment 2 The second segment this trail is a 0.8-mile west-east section from Gorham Street to the Water Falls Bridge. This segment of the trail continues along the old railroad corridor adjacent to the Cayuga-Seneca Canal behind some residential houses and behind the wastewater treatment plant crossing over the existing rehabilitated railroad bridge to the east of the wastewater treatment plant, and continues along the canal and adjacent to River Road to the Water Falls Bridge.



Recommended Trail Segment 2 Map

Segment 3 The third segment is a 0.6-mile west-east section from the Water Falls Bridge to Kingdom Road. Segment 3 will require a crossing under the Water Falls Bridge via a new elevated walkway and

continues east with additional elevated walkway through a low, wetland area. The Trail will then run along the canal to the privately owned "DeVivi" property, then along River Road to Kingdom Road. The slopes/ramps of the elevated walkway/decking will need to meet ADA accessibility standards. It is anticipated that the design will be similar to the decking work completed as part of Phase I Canalway trail at Rte. 96A (pictured at right).





Recommended Trail Segment 3 Map

Segment 4, 0.6 miles, runs from the DeVivi property (opposite Kingdom Road) to the west end of the Ludovico Sculpture Trail at Elks Club Lodge site. At DeVivi's, the property owner does not want a trail on the water side. Therefore, a section of roadside trail alignment along the former railroad bed will be needed. Guiderail protections to separate trail users from River Road vehicles will be needed.

This segment would then run north back to the canal where the trail would extend to the west along the old railroad corridor to the Elks Lodge site. At the east side of the Elk's site, a new bridge will need to be installed over Sucker Brook Creek to connect the Phase II Trail to the Ludovico Sculpture Trail.

A secondary access trail to Sauder's Grocery Store is recommended.



Recommended Trail Segment 4 Map

The preferred alignment will require permission and an easement from Waterloo Container private property owner (Waterloo Contractors, Inc.). To date, the owner has expressed support for the project and the preferred alignment. This alignment would avoid the need to re-build a bridge on the former railroad/NYSEG alignment (just west of the of Distillery Ave), but would require construction of a new bridge over open water just west of Gorham Street. Easements will also need to be obtained from NYSEG and the Canal Corporation.

A total of six (6) bridges of various material types (wood, steel and concrete) and lengths will need to be constructed to complete the Phase II Trail, including: reconstruction of 2 former railroad bridges; 1 new steel truss bridge; elevated decking over wet/ wetland areas; a concrete box culvert; and a ramped deck and elevated walkway system under the Water Falls Bridge.

Please refer to the **Overall Recommended Trail Map** at the end of this section.

IMPLEMENTATION

The Phase II Trail Study's implementation information includes conceptual level cost estimates, potential funding opportunities, and follow-on activities including required SEQRA documentation and processes.

Concept Level Cost Estimate Summary for the Recommended Trail Alignment: \$1,971,230

Trail Description	Cost Estimate
Cayuga-Seneca Canalway Phase I Trail (east end of trail) to Gorham Street (Bridge No. 1 Schematic Cost = \$25,000)	\$213,405
Gorham Street to Water Falls Bridge (Bridge No. 4 Schematic Cost = \$20,000)	\$417,450
Water Falls Bridge to Kingdom Road (Bridge No. 5 Schematic Cost = \$255,000, (Bridge No. 6 Schematic Cost = \$25,000)	\$566,400
Kingdom Road to Ludovico Sculpture Trail (west end of trail) at Elks Club Lodge (Bridge No. 8 Schematic Cost = \$85,000)	\$377,225
Island Trail from Distillery Avenue to Gorham Street (Bridge No. 2 Schematic Cost = \$15,000, (Bridge No. 3 Schematic Cost = \$190,000)	\$340,550
Sauders Trail Spur	\$56,200

^{*} Schematic Cost of Bridges is included in the Total Schematic Cost Estimate for each Trail

PROJECT LOCATION

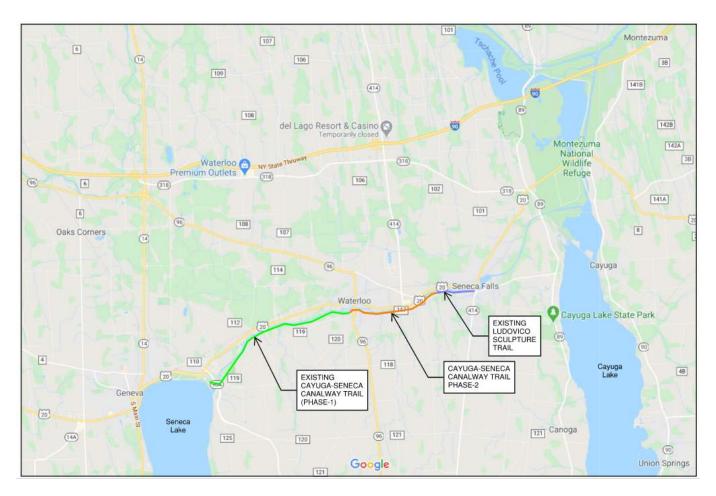


Figure 1 - Project Location Map



2. INTRODUCTION



2.1 BACKGROUND AND PURPOSE OF STUDY

With support from the Genesee Transportation Council, the Seneca County Department of Planning and Community Development is producing a concept-level plan for Phase II of the Cayuga-Seneca Canalway Trail from Waterloo to Seneca Falls. The 2005 Cayuga-Seneca Canalway Trail Master Plan created a concept and proposed alignment for the trail to follow the Cayuga- Seneca Canal from the City of Geneva through the Village of Waterloo, the former Village of Seneca Falls and to the Erie Canal Trail near the hamlet of May's Point. Phase I of the Trail has been constructed connecting the City of Geneva and the Village of Waterloo. Phase II will develop a concept for the trail conditions, including the preferred alignment, property impacts, materials, and signage. Please see **Figure 1**, **Project Location Map**.

The Phase II Trail is a near-term recommendation in the Genesee Transportation Council (GTC)'s Regional

Trails Initiative Update, which was adopted in February 2016 and builds upon the initial Regional Trails Initiative of 2004 that included Seneca County. Its inclusion in the Regional Trails Initiative demonstrates its importance as a transportation facility that, ideally, will ultimately connect to the Erie Canalway Trail, Route 90 Scenic Byway, Cayuga Lake State Park Campground, and beyond to the south via a potential trail along the Lehigh Valley Rail Line.

The purpose of the Cayuga-Seneca Canalway Trail Phase II Study is to work closely with the Community and the Project Steering Committee to develop and evaluate concepts and alternative route scenarios for a 3+/- mile trail that would connect the end of the existing Cayuga-Seneca Canalway Trail Phase I in Waterloo to the existing end of the Ludovico Sculpture Trail in Seneca Falls.



This project specifically focuses on the trail connection between Waterloo and Seneca Falls – the 'missing link' between the existing trails to the west and east.

The Cayuga-Seneca Canalway Trail Master Plan was completed more than a decade ago (2005 with its predecessor dated three years prior to that). Much has changed since the Master Plan was developed and

2. Introduction

specific items raised in it and others that have arisen since that time that will affect the Trail's alignment include:

- Encroachment by some of the adjacent residences on the old railroad right-of-way owned by New York State Electric & Gas Corporation (NYSEG) has occurred in multiple places. This includes within the Village of Waterloo and potentially on the south end of the former Gorham Street Bridge.
- The current terminus on the western end of the project area is at the Seneca County Soil and Water Conservation District maintenance facility instead of originally intended at the former New York State Department of Transportation (NYSDOT) residency.
- The Water Falls Bridge that connects County Road 117 (River Road) and Routes 5 & 20 was constructed so that the southern abutment creates challenges for where this portion of the Trail will be aligned.
- The old railroad right-of-way to the northwest of the River Road and Kingdom Road intersection is owned by the business operating there (DeVivi).

Connecting to the Frank J. Ludovico Sculpture Trail will require reconstruction of a former bridge across Sucker Brook to provide direct access to the Seneca Falls downtown/main street district on the north side of the canal via Bridge Street.

STUDY AREA

The study area extends 3 miles along the south side of the Cayuga-Seneca Canal and north of River Road, between the end of the existing Cayuga-Seneca Canalway Trail Phase I in Waterloo near the Canal Lock CS-4 to the existing end of the Ludovico Sculpture Trail in Seneca Falls adjacent to the Elks Club. The balance of the study area is primarily East River Street/River Road to the south, and the Erie Canal to the north. Please see map below or Figure 2, Overall Study Area Aerial Map.

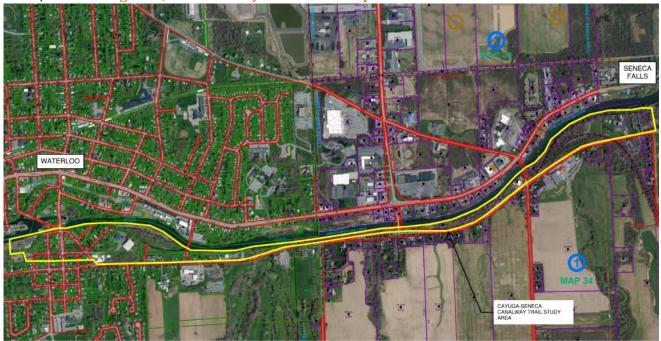


Figure 2 - Overall Study Area Aerial Map

The potential trail route is primarily comprised street rights-of-way, an inactive railroad corridor (owned by NYSEG), private property, NYS Canal Corporation right-of-way, and some private landowners.

2. Introduction

STUDY OBJECTIVES

The Cayuga-Seneca Canalway Phase II Trail Study was guided by the following objectives:

- Establishing active transportation connections with neighboring communities.
- Enhanced and increased use of the Cayuga-Seneca Canal
- Connecting residents with the regional trail network.
- Providing opportunities for universal access.
- Improving access to walking and bicycling facilities.
- Protecting and enhance existing resources.
- Emphasizing sustainability and maintainability.
- Maintaining user safety.

These efforts are aimed at improving quality of life for Waterloo and Seneca Falls residents, offering opportunities for physical activity and improved health, and enhancing the vitality of Waterloo/Seneca Falls and the surrounding communities.

2.2 RELATIONSHIPS TO OTHER COMMUNITY PLANS AND STUDIES

The Phase II portion Canalway Trail is compatible with the general principles and long-term community plans for the overall trail connections between Geneva, Seneca Falls and beyond to Cayuga Lake State Park as outlined in the *Cayuga-Seneca Canal Trail Master Plan:* Geneva to Seneca Falls ("Master Plan"). The Master Plan was prepare for the Cayuga-Seneca Canal Trail Association, and affiliate of the Canalway Trails Association of New York (the "Association"), a voluntary organization work with citizens, state agencies and local municipalities to help manage the Canalway Trail across New York State.

As outlined in the *Master Plan*, The Cayuga-Seneca Canal Trail is a proposed nineteen-mile multi-use trail that follows the canal from Seneca Kae to the Montezuma Nation Wildlife Refuge. The trail will link natural and historic sites of statewide and national importance, passing through Finger Lakes scenery. It will be an important link – part of the 348 miles of the Canalway Trail – to serve the recreation and transportation needs of residents and assist visitors in exploring the regions tourist destinations along the historic Erie Canal. The *Master Plan* outlined potential routes – primarily along the former railroad corridor - phasing, development and management plans and design details.

See Appendix H - Cayuga-Seneca Canal Trail Master Plan (December 18, 2002).

Support for the Phase II Trail is outlined in the GTC/UPWP funding application for this study, and is evidenced by GTC's approval of the application via sponsorship by Seneca County.



2. Introduction

3. INVENTORY AND ANALYSIS OF EXISTING AND PLANNED CONDITIONS/NEEDS



This section contains inventory and analysis of existing conditions in and adjacent to Phase II of the Cayuga-Seneca Canalway Trail. The topics discussed in this section include the physical and environmental conditions of the study area, property ownership, circulation and transportation, and an assessment of key issues.

3.1 LAND USE & PROPERTY OWNERSHIP

This section reviews adjacent property ownership, as well as easements and rights of way within the study area.

1. OWNERSHIP

The potential Cayuga-Seneca Canalway Trail Phase II (The Trail) alignments include properties owned by the Village of Waterloo, Seneca County, NYS Electric & Gas (NYSEG), NYS Canal Corporation (NYSCC), and a number of private property owners.

The primary and alternate alignments for The Trail traverses lands owned by NYSCC, NYSEG, Village of Waterloo, Seneca County and some portions of privately-owned lands. See Table 2 and Table 3 for specific property owner information.

Additional alternate and secondary trail routes could potentially impact a larger number of private property owners. Contacting landowners and continuing to build support for The Trail will be a necessary step in early design development for each additional trail segment.

See insert map below and Appendix G for the existing tax map information.

Table 1: Property Owners within Primary Trail Alignment

Property No.	Owner Information	Tax Account No.'s	Notes
1	NYS Electric & Gas (NYSEG)	14-1-30, 16-1-41, 16-1-43, 16-1- 53, 17-1-9, 34-1-30	Various Properties along Trail
2	NYS Canal Corp. (NYSCC)	14-1-31, 16-1-13, 17-1-8, 34-1- 10, 34-1-18, 34-1-19.1	Various Properties along Canal
3	Village of Waterloo	N/A	Huff Street R.O.W.
4	Seneca County	N/A	East River Road R.O.W. (County Road 117)

^{*}See insert map below or Figure 14 - Trail Property Overall Map for property owner locations

Table 2: Property Owners within Alternate Trail Alignment

Property No.	Owner Information	Tax Account No.'s	Notes
1	NYS Electric & Gas (NYSEG)	Varies	Alternate Trail Alignment No. 2, 3, & 4
2	NYS Canal Corp. (NYSCC)	16-1-13, 34-1-10	Alternate Trail Alignment No. 1 & 2
3	Village of Waterloo	Gorham Street R.O.W.	Alternate Trail Alignment No. 1
4	Seneca County	East River Road R.O.W. (County Road 117)	Alternate Trail Alignment No. 2 & 4
5	Waterloo Contractors, Inc.	16-1-41	Alternate Trail Alignment No. 1
6	Michael Pacyliak	T.B.D.	Alternate Trail Alignment No. 3
7	David DeVivi	34-1-17	Alternate Trail Alignment No. 3

^{*}See insert map below or Figure 14 - Trail Property Overall Map for property owner locations

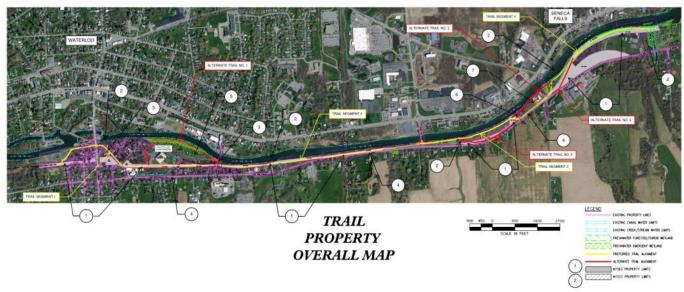


Figure 14 - Trail Property Overall Map

2. ADJACENT PROPERTIES

A substantial number of properties are located adjacent to the trail within the study area, resulting in a significant number of property owners that would be adjacent to the proposed trail improvements. The public involvement plan and efforts provided significant opportunities to involve and engage the community in the analysis of the potential trail alignments.

There was expressed opposition to a proposed trail from some neighbors in the Distillery Avenue area (north-south portion) and some of their adjacent neighbors, extending to Gorham Street. A petition was circulated and submitted to the County. Primarily, those opposed do not want the trail in close proximity to their properties/residences. Their concerns centered mostly on loss of privacy/ trees, privacy, potential litter and vandalism, and home security issues.



Petition Property Owner Map

3.2 PHYSICAL AND ENVIRONMENTAL CONDITIONS

This section describes the existing environmental conditions within the study area and in some instances, the surrounding area. Information is presented on topography, soils, ecological character, drainage and water-related issues, and land use.

SOILS

The soils within the trail study area were evaluated using the United States Department of Agriculture Natural Resources Conservation Service online mapping tool "Web Soil Survey". The soil survey indicated that at least 10 different soil types are present within the study area. The soils found in the largest quantities in the study area are identified in Table 4 below.

Table 4: Soils Predominantly Found in Study Area

Abbreviation	Soil Name	Slopes	Hydrologic Soil Group & Drainage
Al	Alluvial land	Not Specified	A/D, well drained and very poorly drained
CeB	Cazenovia silt loam	3-8% slopes	C, poorly drained
CIA	Collamer silt loam	0-2% slopes	C/D, poorly and very poorly drained
OdB	Odessa silt loam	3-8% slopes	D, very poorly drained
SeB	Schoharie silt loam	2-6% slopes	D, very poorly drained
ShA	Schoharie silty clay loam	0-3% slopes	D, very poorly drained
ShB	Schoharie silty clay loam	2-6% slopes	D, very poorly drained
ShC3	Schoharie silty clay loam	6-12% slopes	D, very poorly drained
ShD3	Schoharie silty clay loam	12-20%	D, very poorly drained
Sn	Sloan silt loam	Not Specified	B/D, moderately well drained and very poorly drained

For sections the new trail that following along the old railroad corridor, the old railroad bed is generally elevated above the generally flat and poor soil areas along the canal, providing a good surface to install a new trail. Off the elevated old railroad bed there are areas where soil will present drainage and compaction issues and possible erosion problems. Trail areas in the Odessa/Schoharie Silt Loam/Clay Loam soil areas, which are generally very poorly drained, will need to be addressed during design development. More details about soil composition can be found in the Soil Survey Data located in Appendix G.

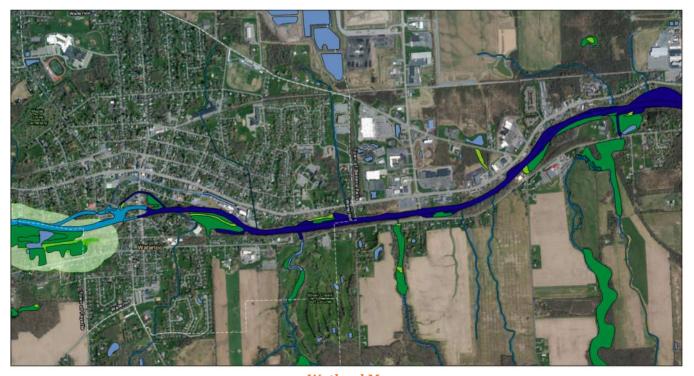
WETLANDS, STREAMS, AND DRAINAGE

Based on preliminary review of both United States Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) mapping and the NYSDEC freshwater wetlands mapping database, the trail study area includes streams and wetlands. There are federal and state designated wetlands in or near the study area.

Review of NWI mapping indicates there are federally mapped (Waters of the United States as defined by the United States Army Corps of Engineers (Corps)) wetlands located within the study area. The federally mapped

wetlands are identified in the Wetland Mapping in **Appendix G**. The wetlands associated with the project are associated with low areas around the Cayuga-Seneca Canal (Seneca River) and near other tributary streams that outlet into the canal. A boardwalk through some of these wetland areas will be required to allow the trail to pass through the wetland areas. If this alternative is proposed, a low impact boardwalk design such as a floating boardwalk or helical pillar system could be utilized during design development.

The Freshwater Wetlands Act requires the NYSDEC to map all state-protected wetlands (typically over 12.4 acres in size) to allow landowners and other interested parties a means to determine where state jurisdictional wetlands exist. Based on review of the NYSDEC freshwater wetlands mapping data base, there are no state-regulated wetlands within the Phase II trail section, but there is a state regulated wetland at the end of the Cayuga-Seneca Canalway Phase I Trail that has a Wetland Checkzone that extends into the beginning of the Phase II section of the new trail. The NYSDEC freshwater wetland locations are identified in the insert map below or in the Wetland Mapping in Appendix G.



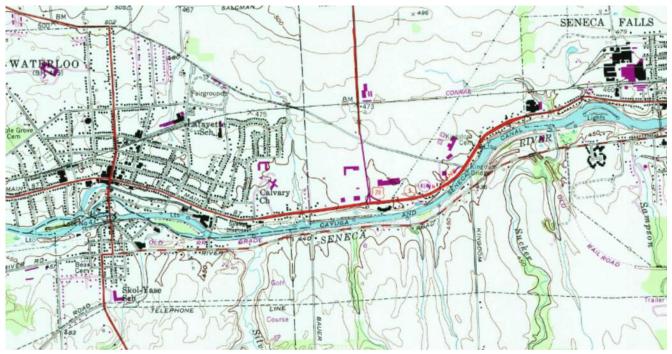
Wetland Map

A formal wetland delineation would be required during design development to make a final determination of wetland and stream boundaries. A final determination of jurisdictional status can only be made after an on-site agency review of identified boundaries.

The proposed trail alignment primarily runs along the south side of the Cayuga-Seneca Canal (Seneca River) which is a NYSDEC regulatory Class C waterbody. The trail alignment also crosses Bear Race Creek, Silver Creek and a few more tributary streams along the trail alignment. All the waterbodies within the study area have NYSDEC Class C classifications which is suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The proposed trail alignment for this project crosses six (6) streams.

TOPOGRAPHY

The potential trail routes in the study area generally follow along the Cayuga-Seneca Canal, which generally has relatively small topographic changes over the course of the 3 miles. The approximate elevations along the trail vary from +/-450 at the West end, +/-440 at the center (near Water Falls Bridge) to +/-445 at the East end of the trail. There are a few sections of the project that may require additional consideration of topography, specifically in the island area near the Gorham Street bridge and in the area of the Water Falls Bridge. See USGS Contour Map below or in **Appendix G** for Slope details.



USGS Contour Map

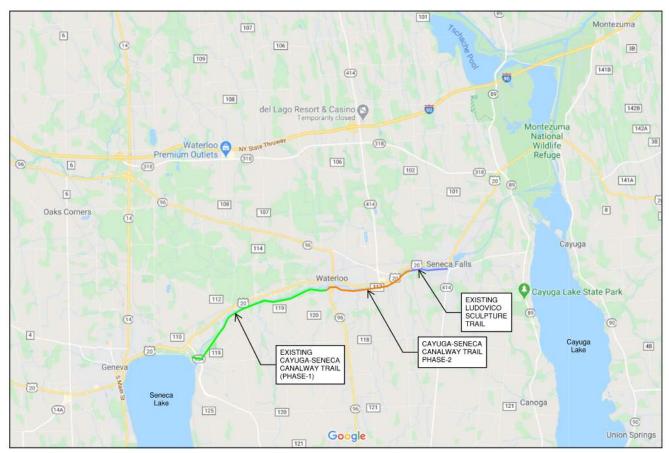
3.3 TRANSPORTATION

As stated in this study's funding application: "Each trail as proposed in the Regional trail Initiative has the chance to increase quality of life, if only for recreational purposes." It further states: "With so much of the development in Seneca County being located along the canal, this corridor provides access to many of the County's assets. However, NYS Route 5 & 20 and County Road 117 (River Road) are both roads where foot or bike travel can be hazardous." The Phase II Trail, if constructed, will provide a sorely needed missing link to enhance community connections and quality of life.

1. REGIONAL TRAIL NETWORK CONNECTIVITY

The Phase II trail corridor will provide the missing trail link between the existing Cayuga-Seneca Canalway Phase I Trail and the Ludovico Sculpture Trail, and will connect the communities of Waterloo and Seneca Falls by way of recreational trail. The second phase of the grand, 19-mile vision – east of Seneca Falls - will further the connection from Seneca Lake State Park to the Montezuma National Wildlife Refuge, the

See insert map below or Figure 1 in Appendix A for Regional Trail Network Connectivity.



Project Connectivity Map

2. SIDEWALKS, ROADWAYS, INTERSECTIONS AND TRAIL ACCESS

In addition to secluded woodland and canal-front trail segments, the Phase II alignment for The Trail will at times extend alongside existing roadways. The Trail will also need to cross a busy roadway and traverse quiet residential streets. Maintaining open views / sight distances and installing appropriate regulatory signage will be critical to trail user and motorist safety.

The preferred alignment for the western segment of the trail runs from the Phase I trailhead (at the Seneca County Soil and Water Conservation District Facility) to Canal Lock 4 via Huff Street, where the trailhead would be accessed from the existing gravel parking lot. Then crosses Commercial Street and continues along Huff Street then on to Gorham Street via the Waterloo Container site.

Some existing sidewalks along Huff Street can be utilized as part of the trail alignment, but they are flush with the street pavement, spalled in places and too narrow to accommodate a multi-use trail. So, upgrades and safety improvements would be needed.

Some sections of this first segment would need to be constructed along the old railroad corridor and would include new water crossing(s).

The second segment extends from Gorham Street to the Water Falls Bridge mainly following along the canal

and old railroad corridor. New trail access could be accommodated at a gathering node at the Gorham Street Bridge and a new trailhead at the Waterloo Wastewater Treatment Plant.

The third segment, from Water Falls Bridge to Kingdom Road, would follow along the canal and River Road. The need for new trail access along this segment is minimal due to the low level of adjacent development. The needed raised platform trail beneath Water Falls Bridge and through the marshlands adjunct to the bridge will create a unique landmark attraction.

The fourth, westernmost segment extends from Kingdom Road to the existing Ludovico Sculpture Trail behind the Elks Lodge. A former railroad bridge would need to be reconstructed across Sucker Brook to make the connection to the Ludovico Sculpture Trail. Access to the link of the two trails would be accommodated from the existing gravel drive and small parking area on River Road, the east side of the Sucker Brook bridge.

Along the potential route and former rail corridor, there are a number of bridges and culverts that will need to be built, re-built or improved to complete the Phase II trail. Potential bridge locations and examples of some of the conditions of former railroad bridges are shown below. Refer to Appendix B for detailed bridge and culvert evaluations along the potential trail routes.



Bridge Location Map



Examples of Existing Railroad Bridge Conditions

The existing trailhead at the west end of the Phase II Trail is quite large and adequate. The trailhead access at the east end where the Phase II Trail would meet the Ludovico Trail is very small and inadequate in size.

Roadways within the trail corridor fall under the jurisdiction of NYS Department of Transportation, Seneca County Department of Transportation, and local jurisdiction. Any recommendations for changes, enhancements or access points to trailheads will need to be coordinated with the corresponding jurisdiction.

The trail segment details are more fully represented in Section 5.2, Preferred Trail Alignment.

CRASH SUMMARY

Since the Phase II Trail will need to include a crossing at Washington Street/NYS Route 96 - a major thoroughfare in the Village of Waterloo - crash data within the Study area was obtained from NYSDOT. The data was reviewed and analyzed within the corridor between River Street and E. Water Street. The data was reviewed to examine if any crash patterns could be identified. A summary of the pertinent analysis follows:

- There were 16 total crashes within the study area over a 5 year period
- There were 3 crashes at Washington Street/Rte. 96 @ Huff St (which is the anticipated crossing location)
 - There were two (2) bicycle crashes (1 of which was at the intersection)
 - Vehicle making a right turn westbound from Huff St, and the cyclist was travelling southbound on the on east side of the road (The cyclist should have been on the west side of the road). The crash resulted in property damage.
 - 200' south of Huff Street, a vehicle entered Washington Street/ Rte. 96 from a private driveway traveling northbound. The cyclist was traveling westbound and the brakes were not working properly The crash resulted in injury.
 - There was one (1) southbound read-end vehicle crash
 - Vehicle waiting to make a southbound left turn onto Huff St. was rear-ended by a vehicle that could not stop in time. The crash resulted in property damage.

The analysis did not yield any crash patterns that warrant mitigation.

3.4 TRAIL USER PROFILE FROM THE PUBLIC INPUT

Based on feedback received at public meetings and respondents to the online survey regarding trail usage and alignment, the following summaries were compiled.

- Frequency of use: 75% of the respondents use the trail daily to a few times a year
- Transportation: travel back & forth to Waterloo
- Primary activities: walking/hiking, biking, jogging/running and pet walking. Approximately 11% of the respondents noted cross country skiing use
- Primary Reasons for using the trail: recreation and health care and exercise

Most Important considerations for the Phase II Trail; What do you like most about the trail?

- Proximity to the canal
- Avoidance of East River Road
- Natural surroundings
- Pedestrians and bicyclists
- Ensuring privacy / buffering along the residences
- Privacy and safety
- Maintenance
- Crime
- Cleanliness
- Parking
- Signing, and wayfinding and interpretive signage

Other Comments received regarding trail usage.

- ADA Accessibility
- Toilet facilities
- Benches
- Patrols on bicycles (regularly)

3.5 ISSUES, OPPORTUNITIES AND CONSTRAINTS

1. ISSUES

The following issues and constraints were considered in relation to the study area and trail routing possibilities;

- Easements needed
 - o NYSEG, NYS Canal Corp, private lands
- Proximity to homes
 - Encroachments onto NYSEG property (the former railroad bed)

- Some objections
- Screening and other mitigating needs
- Acceptance by adjacent residents
- Wetlands/Permitting: from NYSDEC and the Canal Corporation
- Cost of Construction
 - o The needed bridge work at various locations will result in significant cost to the project
 - o The Waterfalls Bridge area will force the trail alignment under the roadway bridge, which will add significant cost and deck construction through wetland areas
- Safety
 - o On right-of-way (ROW) sections
 - o Remote sections
- Shared Use on Huff Street

The following opportunities and constraints were considered in relation to the study area and possible trail routing possibilities.

2. OPPORTUNITIES

The following characteristics of the trail corridor are presented as opportunities, or elements that can be exploited to the advantage of the project.

ADA Accessible The trail corridor is relatively flat which lends itself to an accessible route. Accessible parking pads and universally accessible plazas are recommended at each new trailhead.

Connections The main purpose of the project is to connect the missing trail link between the existing Cayuga-Seneca Canalway Phase I Trail to the Ludovico Sculpture Trail. Completion of Phase II will connect the two communities of Waterloo and Seneca Falls, and provide further continuity and direct access to the greater upstate New York trail network.

Historic Resources The trail will not only provide access to open space but also to historic resources. The local Waterloo and Seneca Falls has plenty of historical resources that will become accessible from the trail system.

Habitat Diversity Along the canal, the trail corridor traverses through various vegetative cover types and wildlife habitats. The corridor provides access and opportunities to view the canal and natural landscape in a relatively developed area.

Active Transportation (non-motorized travel – pedestrians, bicycles, wheelchairs, strollers, etc.). The Phase II Trail will provide connections to the canal lock, to the roadway and sidewalk network, to downtown Waterloo and other local and historical attractions – most notably, the National Women's Hall of Fame in Seneca Falls.

3. CONSTRAINTS

The following issues are presented as constraints, or issues that may challenge the completion of the Phase II Trail.

Safety The proposed trail includes sections along existing roads and on sidewalks and across bridges and wetland areas. Maximizing trail user safety in these areas will need to be a consideration during design development. See **Appendices B and C**.

Residential Properties The preferred alignment for The Trail passes along or adjacent to a number of residential properties. The purpose of some of the alternate trail routes that were explored is to avoid or go around some of these conflicting properties. In addition, the Trail would be in proximity to a number of residents and property owners who are opposed and potentially affected by the proposed trail.

Bridges The preferred alignment will need to include reconstructed rail bridges, new bridges and culverts and elevate walkways to traverse wet areas and wetland areas along the canal.

4. ALTERNATIVES CONSIDERED



This chapter describes the alternatives considered for the Cayuga-Seneca Canalway Trail Phase II system.

4.1 ALTERNATIVE OVERVIEW

The study included extensive field investigations and was integrated with the Public Engagement efforts (outlined in Section 5). The community members and Steering Committee members and consultant team walked together in the Waterloo portion of the study area and worked together to complete plan exercises to examine alternative routes.

The team focused on the west end of the study area first, where there were some of the areas of concern, issues and potential alignment obstacles. These areas of concern were identified in the Seneca County Application for UPWP funds for the study.

Potential routes that were sketched included alternates on both the north and south sides of the canal, and the potential use of the closed bridge at Gorham Street and the Water Falls Bridge. At the conclusion of those efforts, the take-away driving factors for the proposed trail were:

- Stay on the south side of the canal, and as close to the Canal as possible
- The trail route should traverse to the lock (at the Waterloo end)
- Avoid a trail alignment along East River Street/River Road
- Minimize impacts to adjacent residential properties
- Enhance travel convenience and opportunities for pedestrians and bicyclists
- Alignment to enhance local economic development benefits bring people 'downtown'

Those opposed do not want the trail in close proximity to their residences.

The DeVivi property owner does not want the trail on the canal side of the property, which he feels would diminish the value of the waterfront land. He did express a willingness to sell the property.

4.2 ALTERNATE / SECONDARY TRAIL ALIGNMENT OPPORTUNITIES

A few alternate trail route alignments were considered. These sections would provide alternate routes around residences, private lands, wetlands, and other trail conflict areas. There are also opportunities for secondary trails providing connections to local business and other areas of attraction.

Alternate Trail No. 1 – Island Trail from Distillery Avenue to Gorham Street. This alternate trail route would start at the west side of the Waterloo Container site along Distillery Avenue in Waterloo and head north behind the Waterloo Container site across an existing culvert to a privately-owned island along the canal. The alternate trail would head east along the canal to the east end of the island where a new elevated walkway and bridge would be needed to connect the island to Gorham Street. This alternate trail alignment would require landowner consent and easements, but would provide the benefit of avoiding residents who are opposed to a trail that is in close proximity to their homes. Figures 7 & 8 in Appendix A. If it is determined the that alternate trail alignment is not feasible, screenings could be utilized to provide separation between the trail and the residents in opposition. Refer to Section 5.4, Design Details, paragraph 6, Screenings.



Alternate Trail No. 1 Map

Alternate Trail No. 2 – River Road Trail from Water Falls Bridge to Kingdom Road. This alternate trail route would start at the east end of the elevated walkway to the east of the Water Falls Bridge. This alternate trail route would then head south to the River Road and then run along the north side of River Road to Kingdom Road. The alternate alignment would have the benefit of using the former railroad bed as a trail base, but would not be in close proximity to the canal. See Figures 7 & 9 in Appendix A.



Alternate Trail No. 2 Map

Alternate Trail No. 3 – DeVivi Canal Trail. This alternate trail route would run along the canal through privately owned NYSEG, NYSCC, Pacyliak and DeVivi properties in place of the trail along River Road. Although this would place the trail closer to the canal, the owner of the DeVivi property would not support an alignment on the water side of his property. See **Figures 7 & 9 in Appendix A**.



Alternate Trail No. 3 Map

Alternate/Secondary Trail No. 4 – Sauders Trail Spur. This alternate trail route would run from Kingdom Road along River Road to Sauders Grocery Store then head northeast back to the preferred trail alignment. See **Figure s 7 & 10 in Appendix A.**



Alternate Trail No. 4 Map

Summary

The alternative analysis and associated field work focused on providing a trail alignment that would meet the project goals and objectives while addressing the public input and concerns. The alternative analysis for potential alignments also addressed property impacts including:

- some existing encroachments on the NYSEG property at the west end
- property owner input, such as willingness of property owners to support the Phase II trail and provide future easements
- proximity to and potential impacts to private residences and businesses
- connections to local businesses

The alternatives were presented to the Steering Committee for review and consideration and consensus toward a preferred alignment.

5. COMMUNITY INVOLVEMENT - Public Participation

From the very beginning of the project – and working directly with the project Steering Committee - a thorough and transparent Public Participation Plan (PPP) was prepared and presented to the Steering Committee for review, comment and approval. The PPP and engagement plan included stakeholder interviews, field walks, and public meetings. The meetings included plan exercises where residents and community members worked together from the very beginning and concurrently throughout the investigations, inventory and analysis phases.

Table 1: Summary of Community Involvement

Date	What	Purpose
October-Dec 2019	Stakeholder Interviews	Early feedback: pre-engagement interview with key stakeholders to gain understanding of how the project was likely to be perceived and what the likely issues would be.
Nov 2019	Public Participation Plan (PPP)	Prepared using input received from key community stakeholders, elected officials, Cayuga-Seneca Canalway Trail Association representatives, Town/Village board members, residents and others. The PPP was reviewed and approved by the Steering Committee.
Dec 16, 2019	Resident and Landowner Meeting	Early Feedback was obtained via discussion and mapping alignment exercise, primarily from the Waterloo area residents. Discussions centered around trail usage, experiences, potential alignments, and suggestions for the project team.
Jan 11, 2020	Trail Corridor Walk	The purpose was to share information with stakeholders, the general public and trail users. Over 45 people attended.
Jan 21, 2020	Public Meeting No. 1	Open House Public Meeting: the meeting included project overview, summary of engagement to date, discussion and mapping exercise and next steps.
April 15, 2020	Public Meeting No. 2 (virtual due to Covid 19 protocols)	Live Public Webinar (Zoom, Call-in, Seneca County YouTube channel): the meeting included a summary and discussion of Public Engagement efforts, discussion of work to date, trail alignment alternatives, Q&A and discussion of next steps.
April 15 - May 10 2020	Online Survey via a variety of methods and techniques: press release, e-mails to stakeholders, live public webinar, Seneca County & Village websites, social media & County	Feedback and Comments were received based on questions regarding trail usage, trail alignment preferences, important considerations of the trail alignment, open-ended responses, and an opportunity to offer additional feedback related to infrastructure and trail experience.

Highlighted comments received from the Stakeholder Interviews and early engagement activities included:

- Community connectivity of Waterloo and Seneca Falls two via the completion of the Phase II trial
- Property owners adjacent to the canal and along the potential corridor may not welcome the project
- Local businesses may experience economic benefits
- Concerns:
 - Alignment through the Village of Waterloo
 - Traffic impacts and safety at street crossings
 - o Proximity to residents
 - Water Falls Bridge area steep slopes and safety relative to traffic
- Engagement and Communication Plan (in addition to public meetings)
 - Project website & press releases
 - County & Community webpages
 - o Facebook pages (Village and Cayuga-Seneca Canalway Trail Association)
 - FingerLakes 1 media outlet for advertising and public meetings

The mapping exercises produced healthy exchanges and comments among the participants, and resulted in some sketches of various alignment options, both on the south and north side of the canal. The following is a summary of the Public Engagement and Public Meeting efforts.

Major take-aways, consensus and driving factors for the proposed trail alignment were:

- Stay on the south side of the canal, and as close to the canal as possible
- The trail route should traverse to the lock (at the Waterloo end)
- Avoid a trail alignment in proximity to East River Street/River Road
- Minimize impacts to residential properties (privacy, safety)
- Enhance travel convenience and opportunities for pedestrians and bicyclists
- Alignment to enhance local economic development benefits bring people into Waterloo

Comments and suggestions received:

- Most stated the existing trail has been positive for the community; some who were opposed to the Phase I Trail have changed their opinion to the positive side.
- The existing trail width allows for quick and easy maintenance
- Yards at the end of Logan Street & Kendig Street: an alignment along the canal is not viable since canalside residents are too close to the canal; some hold permits from the Canal Corp to utilize canal property.
- Wayfinding signage to downtown; positive for tourism
- Utilize existing bridges/ bridge locations
- Screening: use fast growing plants and fences
- Provide traffic calming measures along Huff Street
- Building the trail under the Water Falls Bridge will be a challenge

- Access point suggestions: at water plant, Kingdom Road, Water Falls Bridge, end of Ludovico Trail
- Trail dimensions & screening: trail width and buffer distance to trail screening
- DeVivi property: the property owner does not want a canal side alignment through his property
- Kingdom Road intersection is a safety issue (grades, sight distance, crash potential)

Concerns raised:

- Property impacts to residents and concerns about proximity along portions of the NYSEG right-of-way
- Loss of privacy and removal of big trees along the railroad bed
- Safety: for both trail users and residents; regular patrols needed
- Trash, debris, maintenance
- Waterloo Container property usage for the Phase II trail and safety around truck movements

There was expressed opposition to a proposed trail from some neighbors in the Distillery Avenue area (north-south portion) and some of their adjacent neighbors, extending to Gorham Street. A petition was circulated and submitted to the County. Primarily, those opposed do not want the trail in close proximity to their properties/residences (due to the potential for vandalism, trash, security, loss of privacy from tree clearing).

The PPP and Engagement Meeting minutes and the Petition are included in the Appendices.

6. RECOMMENDATIONS



6.1 Overview

Alignment Description: The preferred alignment represents the culmination of all input by the Public, the Steering Committee and the consultant team. It respects the opposition raised by some of the residents by recommending a route that traverses around the Distillery Avenue opposition area. However, the preferred alignment will require permission from Waterloo Container private property owner (Waterloo Contractors, Inc.) and construction of a bridge at its western terminus. To date, the owner has expressed support for the project and the preferred alignment. This alignment would avoid the need to re-build a bridge on the former Railroad/NYSEG alignment (just west of the N-S leg of Distillery Ave), but would require construction of a new bridge over open water just west of Gorham Street.

Based on Public and Steering Committee input, a spur trail connection to the Sauder's Grocery/Deli/Café is desired to provide trail users the opportunity to shop, have lunch, etc.

At approximately 3 miles in length, Phase II of the Cayuga-Seneca Canalway Trail is a significant undertaking. Due to the complexity and various site conditions within the Phase II study area, the preferred trail alignment has been broken down into four segments for clarification and identity:

- Segment 1 Cayuga-Seneca Canalway Phase I Trail (east end of trail) to Gorham Street
- Segment 2 Gorham Street to Water Falls Bridge
- Segment 3 Water Falls Bridge to Kingdom Road
- Segment 4 Kingdom Road to Ludovico Sculpture Trail (west end of trail) at Elks Club Lodge

Each of these segments is described in greater detail below, in Section 6.2, Preferred Trail Alignment. See Appendix A Figures 8 – 10 for alignment details.

In addition, there are potential gateway trailhead and gathering node opportunities along the length of the Trail. Each of the following site improvement opportunities have been investigated as part of this feasibility study:

• Installation or expansion of a trailhead and parking area at the Phase I Connection, the Wastewater Treatment Plant, and the Ludovico Sculpture Trail Connection.

• Installation of a gathering node at the Washington Street Crossing, the Gorham Street Bridge Crossing, and the Water Falls Bridge area.

These are potential opportunities to develop destinations along the trail while providing improved amenities to members of the local communities as well as visitors, and are described further below, in **Section 5.3**, **Gateways: Trailheads and Gathering Nodes**.

Recommended improvements, regardless of their established priority, may be tied to capital improvement schedules and specific opportunities.

Finally, the Cayuga-Seneca Canalway Trail Phase II Trail study was primarily focused on assessing the feasibility of the trail. However, preliminary design decisions were made to allow for estimating the cost of trail development. These are included in **Sections 5.2, 5.3, and 5.4**.

6.2 PREFERRED TRAIL ALIGNMENT

1. SEGMENT ONE

The first segment of the trail is a primarily west-east section between the connection to the east end of the existing Cayuga-Seneca Phase I Trail to Gorham Street. This segment is approximately 0.8 miles. A segment of this section of the trail is on streets within a residential area and will consist of pedestrian and bicycle improvements to existing streets to make them more appropriate for shared use.

Segment One begins at the east end of the existing Phase I Trail, at the existing trailhead parking area at the end of Huff Street. The trail would head east along Huff Street to the Canals Lock CS-4 to Washington Street then continuing down Huff Street to Kendig Street. The trail would then turn east down the existing access driveway to the Waterloo Container Facility (NYSEG property/old railroad corridor). At Washington Street, a specially designed safe crossing (e.g., flashing beacons, specialized striping, an elevated or tabled crosswalk, etc.) will be needed.

At the Waterloo Container Facility (Waterloo Contractors Property), the preferred route includes Alternate Alignment No. 1, which is to head north-northwest through the property and back to the canal via an existing gated access point to parallel the overhead powerline alignment adjacent to the canal. Support for the project (which is anticipated) and easements from the property owner and safe separation features from trucks will be needed. A new bridge would need to be constructed across open water at the west end of the property, at the approach to Gorham Street.

The less-preferred alternative in this portion of Segment 1 is to continue straight east-west down the existing access driveway to the Waterloo Container Facility (NYSEG property/old railroad corridor) and across a refurbished bridge just west of Distillery Avenue. Though this alternative is a more straightforward in alignment, it would not address the desire to remain close to the canal, nor would it address the nearby residential opponents who do not want the trail to be in close proximity to their homes/residences. At the end of Distillery Avenue, the trail would continue east across a rehabilitated railroad bridge and continue along the old railroad corridor adjacent to residential neighborhoods to Gorham Street. See **Figures 7 & 8 in Appendix A**.



Preferred Trail Segment One Map

2. SEGMENT TWO

The second segment this trail is a 0.8-mile west-east section from Gorham Street to the Water Falls Bridge. This segment of the trail continues along the old railroad corridor adjacent to the Cayuga-Seneca Canal behind some residential houses and behind the wastewater treatment plant crossing over the existing rehabilitated railroad bridge to the east of the wastewater treatment plant, and continues along the canal and adjacent to River Road to the Water Falls Bridge. See Section 5.4: Design Details. See Figures 7, 8, & 9 in Appendix A.



Preferred Trail Segment Two Map

3. SEGMENT THREE

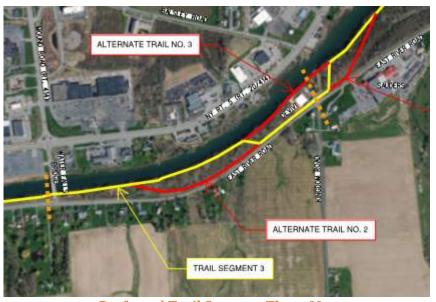
The third segment is a 0.6-mile west-east section from the Water Falls Bridge to Kingdom Road. Segment three will require a crossing under the Water Falls Bridge via a new elevated walkway and continues east

with additional elevated walkway through a low, wet land area. The Trail will then run along the canal to the privately owned "DeVivi" property, then along River Road to Kingdom Road. The slopes/ ramps of the elevated walkway/decking will need to meet ADA design standards for compliance. It is anticipated that the design will be similar to the decking work completed as part of Phase I Canalway trail at Rte. 96A (pictured at right).

The primary alignment for Segment Three is along the canal.

However, additional opportunities for an alternate secondary trail along River Road is identified in the Secondary Trail Opportunities section in the Alternatives chapter. See Figures 7, 9 & 10 in Appendix A.





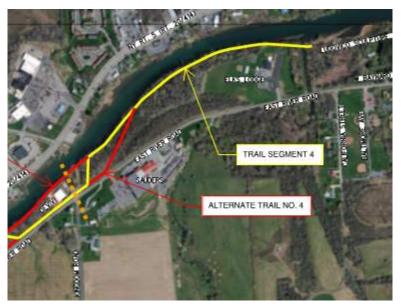
Preferred Trail Segment Three Map

4. SEGMENT FOUR

Segment Four, 0.6 miles, is the last segment of the trail that runs from the DeVivi property (opposite Kingdom Road) to the west end of the Ludovico Sculpture Trail at Elks Club Lodge site. At DeVivi's, the property owner does not want a trail on the water side. Therefore, a section of roadside trail alignment along the former railroad bed will be needed, with guiderail protections to separate trail users from River Road vehicles. This segment would then run north back to the canal where the trail would extend to the west along the old railroad corridor to the Elks Lodge site. At the east side of the Elk's site, a new bridge will need to be installed over Sucker Brook Creek to connect Phase II to the existing Ludovico Sculpture Trail.

The primary alignment for Segment Four is along the canal. However, additional opportunities for an alternate secondary trail to Sauders Grocery Store and alternate route back to the main trail alignment are

identified in Secondary Trail Opportunities section in the Alternatives chapter. See Figures 7 & 10 in Appendix A.



Preferred Trail Segment Four Map

6.3 GATEWAYS: TRAILHEADS AND GATHERING NODES

Gateways: As the Phase II Trail stretches its way from its origin at the Phase I Parking Lot in the west to its eastern terminus at the Ludovico Sculpture Trail connection, several opportunities arise for the development of trailheads and gathering nodes. Trailheads and gathering nodes provide areas of respite on the linear corridor where users can rest and gather information via key wayfinding, interpretive and regulatory signage. Trailheads also provide essential entry/exit points along the length of a trail, connecting the path to the surrounding community. Typical features of trailheads include vehicular parking, plaza space, and picnic space.

Vehicular parking at trailheads typically includes standard and ADA-designated accessible parking spaces. All recommended Phase II trailhead locations have existing gravel parking spaces that will continue to be utilized or expanded to meet anticipated demands. In addition, the development of accessible parking pads will be recommended at each trailhead location.

The trailhead plaza is a multifunctional, enlarged hardscape zone. The plaza acts as a gateway from the community into the trail network system, provides area for new user groups to gather their party, and invites on-trail pedestrians and cyclists to take a break from their journey along the trail corridor. Introducing a new pavement material, such as concrete or unit pavers, will differentiate the space from the asphalt, gravel, or crushed stone of the parking and trail areas. The plaza should be fully accessible and feature signage, seating, and bike parking and repair opportunities. Signage includes a kiosk to serve as a landmark, drawing users into the space. The kiosk provides ample panel space to display informational maps, wayfinding, and regulatory information. Interpretive information may also be included within the kiosk or as independent, low profile signage. Refer to the signage and site furniture subsections for additional, detailed information.

In addition to parking and plaza space, selective landscape improvements and green space development should be considered in order to frame key views and to provide picnic space for trail users. Providing open mown lawn space adjacent to the parking lot and plaza can be enough to allow for picnicking. Furnishing

picnic tables in the lawn or plaza space will further encourage users to spend additional time at the trailheads. Maintaining open, manicured spaces will help minimize exposure to ticks while also promoting opportunities for engaging in the trail corridor while practicing social distancing.

There are three recommended trailhead locations along the Phase II alignment:

- Phase I Connection: utilize existing Phase I parking lot, install ADA parking, develop new plaza and green space.
- Wastewater Treatment Plant: utilize existing parking lot, install ADA parking, develop new plaza, utilize existing green / park space.
- Ludovico Sculpture Trail Connection: utilize and expand existing Ludovico Sculpture Trail Parking Lot, install ADA parking, develop new plaza and green space.

In addition to the development of trailheads in key locations, gathering nodes along the proposed trail alignment are also recommended. Smaller than trailheads in scale and features, gathering nodes would be located strategically along the corridor to provide breaks in route or to highlight unique features or destinations of the trail segment. The typical gathering node should include expanded pavement for users to pull off from the trail. Similar to the trailhead hardscape, utilizing a new pavement material such as concrete or unit pavers will distinguish the space from the trail path. Within the pull off area, seating, signage (wayfinding, interpretive, and regulatory), and bike racks are commonly included, but in reduced scope compared to the typical trailhead plaza. Landscape improvements for framing key views are also recommended. Depending on the site-specific needs of a gathering node, other unique site amenities may be considered, such as viewing platforms or fishing piers.

There are three recommended gathering node locations along the Phase II alignment:

- Washington Street Crossing
- Gorham Street Bridge Crossing
- Water Falls Bridge Raised Trail

1. TRAILHEADS

Trailhead at Phase 1 Connection:

The western start of the Phase II Canalway Trail connects to the existing Phase I trail terminus. The existing gravel parking lot provides ample general parking for the upgraded Cayuga-Seneca Canalway Trail. To better serve accessible parking needs, it is recommended that an asphalt pavement parking pad be installed at the trailhead. The parking pad will include two van-accessible spaces and an access aisle leading directly to an accessible trailhead plaza. The plaza space serves as the connection between the two phases of the trail,

and includes a gateway kiosk with informational, wayfinding, regulatory, and interpretive signage. Recommended interpretive panel topics include the history of the Cayuga-Seneca Canalway Trail, and the origins and history of the Seneca County Railway and the Lehigh Valley Railroad (refer to the interpretive signage section for additional information). Bike rack installation should provide space for a minimum of six bikes, and a bike repair station will also be installed onsite. Seating is accomplished via a combination of both bench furnishings and informal boulders. In addition to seating, the landscape boulders will frame the landscape improvements and provide separation between the plaza/trail and the parking



lot. The large, open nature of this site, along with its long views to the canal and lock, encourages gathering and rest. Picnic / green space should be included, with picnic table furnishings for encouraged engagement. Shade tree plantings will fortify comfort in the long term.

Trailhead at Wastewater Treatment Plant:

Home to an existing landscaped day-use park, the Waterloo Wastewater Treatment Plant already includes ample green space and an asphalt parking lot in good condition. Currently unmarked, recommended improvements would be for pavement striping of standard parking spaces and one van-accessible space with



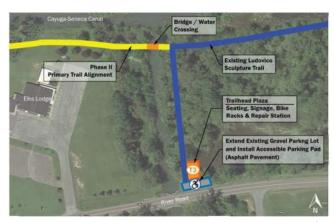
adjacent accessible aisle. The plaza can be carved out of the existing open lawn areas, providing a central connection between the designated parking, existing parkland, and the adjacent trail corridor. Kiosk panels can provide wayfinding, regulatory, and interpretive information. Recommended interpretive panel topics include environmental awareness and the treatment, process, and benefits of wastewater treatment. The plaza will include a full-service bike repair station and bike rack parking for six bikes. New benches and boulder walls provide seating. Existing landscape boulders provide

separation from parking and vehicular areas. While the proximity to the wastewater treatment facility may deter picnicking, the existing parkland remains inviting. Depending on wind and weather conditions, trail users may still engage in picnicking activities. Given the ample open lawn space, no table furnishings are recommended initially.

Trailhead at Ludovico Sculpture Trail Connection:

The Phase II eastern terminus connects to the beginning of the Ludovico Sculpture Trail. The existing Sculpture Trail features a small roadside gravel parking pull off (no larger than to accommodate two vehicles). To better facilitate the connection to a larger regional trail network, the existing lot should be

expanded to include gravel parking for an additional three vehicles as well as an asphalt pavement pad for one van-accessible space and aisle. Space at this location is more constrained than at the other trailheads due to proximity of the River Road / Baynard Street corridor, the adjacent woodlands, and a stream running perpendicular to the road and trail corridors. Given the spatial constraints, the footprint of the plaza and picnic space would be smaller than at the other trailheads. In lieu of open lawn for picnicking, provisions for the activity via picnic tables within the plaza are recommended as the more contextually



sensitive approach. Bench furnishings and boulders provide additional seating, and bike racks (parking for six bikes) and a repair station serve the bicyclist user group. An entry kiosk will provide wayfinding direction, regulatory information, and can include interpretive topics on the history of Seneca Falls and the history of the Ludovico Sculpture Trail.

2. GATHERING NODES

Gathering Node at Washington Street Crossing:

Local context and site-specific opportunities dictate the locations established for Phase II's gathering nodes. The combination of the trail's crossing with the Washington Street corridor and the proximity to local areas of interest make it ideal for the development of a gathering node. The small trailside plaza would feature a few seating options (two benches and informal boulder seating), bike racks for two to four bikes, tree plantings to frame the key Lock CS-4 and Canal view, and signage. Low profile interpretive signs are recommended to be installed along the outer edge of the node, with topic options including Canal Locks, Waterloo/Washington Street History, and the nearby American Civil War Memorial and Oak Island Park. In addition to interpretive signage, the Washington Street Crossing Gathering Node would feature wayfinding signage in the form pedestrian directional chevron blades highlighting the location of nearby parks, memorials, landmarks, and businesses. Potential listings include:

- Civil War Memorial
- Vern's Way Recreational Trail
- Oak Island
- Waterloo History Mural
- Town and Village Offices
- Post Office
- Restaurants (General or Specific [Coaches, First Dragon, Stans, LaFiesta Brava, Ciccino's Pizzeria])
- Other Destinations to be Considered (Churches, schools, shopping districts)



Gathering Node at Gorham Street Bridge:

The Gorham Street Bridge (currently closed) serves as a major visual landmark along the Phase II Trail corridor, and the surrounding waterfront makes for an ideal location for the next trail gathering node. In addition to furnishing similar provisions (seating, bike racks, signage) at this node, the direct access to the canal water makes this node an ideal location for the installation of a fishing pier. Nestled below the Gorham



Street Bridge's east side, a small wooden pier on the canal waters would be a strong draw for trail users and local neighbors alike. Benches and low-profile sign panels interpretive can incorporated directly into the pier. Interpretive topic options include Cayuga-Seneca Canal History and typical of flora/fauna the canal waters. Wayfinding signage at this node may be dependent on the future reopening of the Gorham Street Bridge as a pedestrian

thoroughfare. Suggested listings would include:

- Trail Directional Destinations
- County Fairgrounds
- Restaurants (General or Specific [Connie's Diner])
- Other Destinations to be Considered (Churches, businesses, utilities)

Gathering Node at Water Falls Bridge Raised Trail:

The Phase II Trail corridor will cross underneath the Water Falls Bridge via a raised platform trail. The boardwalk extends over the canal banks, crossing under the bridge, and then continues out across the waters and fens east of the bridge before returning to the higher roadside elevations. This raised trail segment will be a unique experience along the corridor, making it an ideal candidate for the third trail gathering node. Expansion of a portion of the boardwalk trail into a viewing platform will allow for trail users to pull off and engage in the marshland. Seating, bike racks, and interpretive signage can be incorporated into the viewing platform. Interpretive topic options include the environmental ecology of the canal, waterfront, wetlands, and other local flora and fauna. Wayfinding signage at this node would not be required, as the Water Falls Bridge is not currently pedestrian friendly. In the event the bridge is redeveloped in the future (to include a curbed sidewalk and barrier railing) to better connect the southern neighborhoods and trail to the business district to the north, wayfinding signage may be considered.

6.4 DESIGN DETAILS & TRAIL CONSTRUCTION STANDARDS

The following is a brief summary of key, recommended Design considerations; the full content of this section is included in Appendix C.

1. BRIDGES & CULVERTS

The Phase II recommended alignment includes 5 bridges; four are former railroad bridges and one is a new decking system under and along the Water Falls Bridge. Three of the bridges located along the former rail bed alignment will utilize existing foundations with some new timber bracing. New timber decking and railings will be installed. At the Water Falls bridge, an elevated timber walkway system is recommended and anticipated, with a design similar to the elevated walkway constructed for the Phase I Canalway Trail at Rte 96. One of the

new bridges between the Water Falls Bridge and DeVivi will be a new concrete box culvert, and the new bridge over Sucker Brook (at the west end of the Phase II Trail) will be a steel truss bridge.

It is anticipated that both reconstructed and new bridge design, decking and rail materials will be similar to the foundation, decking and rail systems completed as part of the Phase I Canalway Trail at Rte 96.

Any new bridges on alternate alignments, if selected, will need to include new foundation systems with timber decking and railings.

Refer to the Appendix B – Bridge and Culvert Recommendations for full details of the bridge evaluations and proposed materials.



In addition to the bridges, two new pipe culverts will need to be installed along Segment 2 of the recommended alignment. The culverts will need to be sized and designed in accordance with NYSDOT and NYSDEC design guidelines and standards

Refer to Appendix C - Design Details & Trail Construction Standards for more details and discussion.

2. SIGNAGE

Trail Signage:

Three types of signage are recommended for the Phase II Trail: Regulatory, Wayfinding and Interpretive. It is vital for trail users to have easy access to regulatory and wayfinding information to ensure proper and safe use of the trail. Clearly marked signage conveys rules and regulations, trail conditions and routing, and the location of services and destinations beyond the trail corridor. Interpretive signage provides an additional enhancement to the user experience by establishing a stronger connection between the trail user and the

local site's historic, natural, and cultural resources. Proper and safe use of the trail and development of strong connections to the trail increase the length and repeat frequency of use, which also help to minimize litter and vandalism by fostering a greater sense of ownership and urge to self-police the trail. The recommended regulatory, wayfinding, and interpretive information will be distributed via a variety of signage methods, including on-trail signs, roadside MUTCD warnings, distance marker/blazes, kiosks, and more.

Regulatory Signage:

The trail regulatory signs display any applicable local codes, trail usage rules and regulations, allowable hours of operation / occupation, safety guidelines, and warnings. The Phase II Trail corridor has several road crossings as well as roadside segments. Therefore, it will be essential that both trail users and vehicle operators are aware and alert of each other's potential presence. Warning signs should be installed along the trail alignment when approaching a trail / roadway intersections at Washington Street, Distillery Avenue, and Gorham Street.

Refer to Appendix C -Design Details & Trail Construction Standards for more details and discussion on Regulatory signage.

Wayfinding Signage:

Wayfinding signage is recommended as a method to provide navigational and directional guidance on essential directions to nearby destinations. Wayfinding signage facilitates site understanding and initiates a

positive experience through a space. Site and building signage and mile markers may be utilized along the trail to identify the trailheads and major bridge crossings, as well as the start of the Ludovico Sculpture Trail.

Seneca Falls
Seneca Lake
State Park
Downtown
Waterloo

Kiosks are recommended for installation at each of the proposed trailheads with panels for interpretative information, orientation maps with keyed service listings, and trail usage, rules, and guidelines.

The complete, recommended wayfinding signage package includes trail branding and distance markers placed in equal increments along the trail alignment.

Refer to Appendix C – Design Details & Trail Construction Standards for more details and discussion on Wayfinding signage.

Interpretive Signage:

Interpretive Signage is recommended at trailheads, gathering notes and at strategic locations along the trail to display narrative information in a graphic format to educate the user and enhance the user experience. Typically, interpretive signs focus on environmental or historical information present in the geographic area and show eye catching and impressionable visuals.

Recommended topics for interpretation include:

Cayuga-Seneca Canal History. An interpretive panel could cover the history of the Cayuga-Seneca Canal as it connected the Erie Canal to Cayuga Lake and Seneca Lake, its status as one of the four main functioning canals remaining in New York State, and its effect on the local economy and development, and its modern uses.

Cayuga-Seneca Canal Locks. Information covered can be in the form and function of a lock mechanism as well as the location and features of the four locks along the canal's 20-mile span.



Cayuga-Seneca Canalway Trail History. The Cayuga-Seneca Canalway Trail traces a path of historical and national significance through the scenic landscape of the Finger Lakes Region.

Seneca County and the Lehigh Valley Railroads' History. Panel information can include the history of both the 200 mile mainline of the Lehigh Valley Railroad as well as the $10^{1}/_{2}$ -mile Seneca County branch of the late 1800's.

History of Waterloo. Waterloo has a rich history that can be explored via interpretive signage: native American origins in 1500, the destruction of the Skoi-Yase council meeting grounds by Revolutionary soldiers, the first grist mill and its influence on pioneers to further settle the area.

The Many Local 'Firsts'. The birth of Memorial Day; the 1848 Woman's Rights Convention; John Johnson's invention of the Farm Drainage Tile; Charles A Genung, the birth of the modern embalming process; Frederick H. Furniss, Abraham Lincoln, and the Pullman Car; and the Peter Whitmer Farm and the founding of the Church of Jesus Christ of Latter-Day Saints.

Adjacent Parks and Memorials. Potential cultural destinations adjacent to the trail can be recognized helping to encourage trail users to filter into and engage with the greater Waterloo community.

Ecology of the Canal. As the canal (an artificial waterway by definition) ages, its ecosystem evolves and naturalizes, becoming a unique home for migratory birds and water dwellers worth exploring.

Refer to Appendix C -Design Details & Trail Construction Standards for more details and discussion on the Interpretive signage content and locations.

3. SCREENING

Landscape Screening:

Selective screening will be required at various locations along the trail corridor. When available space allows, landscape screening is recommended over the use of privacy fencing. Screen plantings can conceal

undesirable views, provide a sense of privacy to trail-adjacent residential neighbors, and help keep trail users safely on the paved path.

Naturalized cluster plantings are achieved by planting a variety of trees and shrubs to provide informal and natural looking screening.





Privacy Fencing:

Landscape plantings are recommended for consideration before for screening over fencing due to their lower installation and maintenance costs. However, special limitations and other special considerations may necessitate the use of privacy fencing along the trail corridor.

Affected property owners may want to be included in the final selection process.

Refer to Appendix C -Design Details & Trail Construction Standards for more details and discussion on the Interpretive signage content.

7. IMPLEMENTATION



7.1 CONCEPT LEVEL COST ESTIMATES

Below is a summary of the anticipated Concept Level Costs for each of the trail preferred segments and alternate trail alignments.

Table 5: Concept Level Cost Estimate Summary (All Trail Alignments)

Trail Section	Trail Description	Total Schematic Cost Estimate	
Trail Segment One	Cayuga-Seneca Canalway Phase I Trail (east end of trail) to Gorham Street (Bridge No. 1 Schematic Cost = \$25,000)	\$329,630	
Trail Segment Two	Gorham Street to Water Falls Bridge (Bridge No. 4 Schematic Cost = \$20,000)	\$417,450	
Trail Segment Three	Water Falls Bridge to Kingdom Road (Bridge No. 5 Schematic Cost = \$255,000, (Bridge No. 6 Schematic Cost = \$25,000)	\$566,400	
Trail Segment Four	Kingdom Road to Ludovico Sculpture Trail (west end of trail) at Elks Club Lodge (Bridge No. 8 Schematic Cost = \$85,000)	\$377,225	
Total Cost (Trail Segments One - Four) = \$1,690,705			
Alternate Trail No. 1	Island Trail from Distillery Avenue to Gorham Street (Bridge No. 2 Schematic Cost = \$15,000, (Bridge No. 3 Schematic Cost = \$190,000)	\$340,550	
Alternate Trail No. 2	River Road Trail from Water Falls Bridge to Kingdom Road	\$65,350	

Alternate Trail No. 3	DeVivi Canal Trail (Bridge No. 7 Schematic Cost = \$120,000)	\$196,100
Alternate/Secondary Trail No. 4	Sauders Trail Spur	\$56,200

^{*} Schematic Cost of Bridges is included in the Total Schematic Cost Estimate for each Trail

The recommended trail alignments include Trail Segments 1 – 4, a modification to Trail Segment 1 to add in Alternate Trail No. 1 and Secondary/Alternate Trail No. 4. The anticipated Schematic Costs for this recommended trail alignment are listed in the table below.

Table 6: Concept Level Cost Estimate Summary (Recommended Trail Alignment)

Trail Section	Trail Description	Total Schematic Cost Estimate
Trail Segment One	Cayuga-Seneca Canalway Phase I Trail (east end of trail) to Gorham Street (Bridge No. 1 Schematic Cost = \$25,000)	\$329,630
Trail Segment Two	Gorham Street to Water Falls Bridge (Bridge No. 4 Schematic Cost = \$20,000)	\$417,450
Trail Segment Three	Water Falls Bridge to Kingdom Road (Bridge No. 5 Schematic Cost = \$255,000, (Bridge No. 6 Schematic Cost = \$25,000)	\$566,400
Trail Segment Four	Kingdom Road to Ludovico Sculpture Trail (west end of trail) at Elks Club Lodge (Bridge No. 8 Schematic Cost = \$85,000)	\$377,225
Alternate Trail No. 1	Island Trail from Distillery Avenue to Gorham Street (Bridge No. 2 Schematic Cost = \$15,000, (Bridge No. 3 Schematic Cost = \$190,000)	\$340,550
Alternate/Secondary Trail No. 4	Sauders Trail Spur	\$56,200
Trail Segment One (Deduct)	Alt. No. 1 west end connection to Gorham Street (Bridge No. 1 Schematic Cost = \$25,000)	-\$116,225
Total Cost (Recommended Trail Alignment) = \$1,971,230		

^{*} Schematic Cost of Bridges is included in the Total Schematic Cost Estimate for each Trail

Refer to the Appendix E – Cost Estimate for full details of the Phase II Trail anticipated cost along with the bridge evaluations.

7.2 POTENTIAL FUNDING SOURCES

Over the years, funding for trail projects – including rails to trails projects – have come from a variety of sources, including federal, state, local and private. It was anticipated that Seneca County would submit a NYS Regional Economic Development Council Consolidated Funding Application (CFA) for the next phases of the

Phase II Trail project. However, in light of the state budget impacts from the current Novel Coronavirus pandemic, the CFA process has been delayed indefinitely. Loss of revenues during the pandemic have left all levels of government with large. So, availability of future funds is unclear, and will be dependent on federal decisions for stimulus and infrastructure bills to aid states and municipalities.

Regardless of the current situation, obtaining funding for community parks and trail projects can and has been a challenging endeavor. Moreover, funding sources such as federal and state grant programs, private foundations, and corporate assistance programs are constantly changing, both in terms of their availability and requirements for applying. Therefore, the funding opportunities listed below are provided as a partial list of potential funding sources.

- NYS Regional Economic Development CFA (when available)
- Recreational Trails Program (RTP): FHWA assistance program administered by NYS Office of Parks, Recreation and Historic Preservation (NYSOPRHP)
- Park & Trail Partnership Grant Program: administered by NYS OPRHP
- NYS DEC
- NYS Department of State
- Community Development Block Grant (CDBG) program for the State of New York
- NYS OPRHP Recreational Trails Grant Program
- Transportation Alternatives Program (TAP-CMAQ) reimbursement program administered through the NYS DOT
- Urban Parks Institute provides case studies on various types of funding

7.3 FOLLOW ON ACTIVITIES

In the course of preparing the Cayuga-Seneca Canalway Trail Study, there were a few issues that were not addressed or resolved. These issues should be considered as the proposed improvements move into the next phase of design development. The following issues need to be considered:

- 1. Environmental permitting is outlined in this report and will be a critical undertaking in the next phase of trail development.
 - a. Wetland delineations will be required to make a final boundary determination. A boardwalk through some of these wetland areas will be required to allow the trail to pass through the wetland areas. A low impact boardwalk design such as a floating boardwalk or helical pillar system would be recommended during design development
 - b. An archaeological investigation may be necessary but was not part of this study.
 - c. SEQRA determination (see SEQRA Documentation section below for detail)
 - d. Environmental testing as required along the railroad corridor
- 2. Property Ownership and Easements
 - a. Landowners needed to be contacted early in the next phase to secure easements and permissions, including NYSEG, NYS Canal Corp, and the land owners of Waterloo Container and the DeVivi properties.
 - b. Adjacent property owners need to be contacted to review, discuss and request support for acceptable screening options.

- 3. To get the trail constructed, the following steps will also be necessary:
 - a. Programming and continued community involvement
 - b. Secure funding for design and construction
 - c. Design development & Final Design
 - d. Construction documents
 - e. Acceptance of final design and construction documents by the client
 - f. Bidding
 - g. Construction
 - h. Management and maintenance plan
 - i. Identification of possible community partners, such as the Genesee LandTrust

SEQRA DOCUMENTATION AND PERMITTING PROCESS

Project implementation may involve potentially significant impacts to the environment from construction activities. The following is a framework to comply with applicable State and Federal permitting requirements.

The Phase II Cayuga-Seneca Canalway Trail system is subject to State Environmental Quality Review Act (SEQRA) review because the actions proposed may potentially impact the environment. The project would likely be an Unlisted Action because it does not meet the Type I thresholds or the Type II actions (per 6 NYCRR Part 17 of SEQRA. The construction of the trail would not involve the physical alteration of 10 or more acres. The SEQRA process for this project will likely involve a coordinated review as follows:

- The Project Sponsor will complete Part I of a Full Environmental Assessment Form (FEAF), identify all other
 involved agencies and transmit the FEAF to the involved agencies along with a notice that a lead
 agency must be agreed upon within 30 calendar days of the date the FEAF was transmitted to
 them.
- The lead agency will complete Part 2 and if needed, Part 3 of the FEAF to evaluate potential impacts.
- The lead agency will determine the significance of the environmental impact within 20 calendar days
 of its establishment as lead agency, or within 20 calendar days of its receipt of all information it
 may reasonably need to make a determination of significance, whichever is later.
- The lead agency must immediately prepare, file, publish and distribute the determination of significance in accordance with 6 CRR-NY Part 617.12.

Detailed instructions for each step of the SEQRA review process can be found on the New York State Department of Environmental Conservation website: http://www.dec.ny.gov/permits/357.html