New York State Environmental Quality Review Act (SEQR)  
Draft Environmental Impact Statement (DEIS) & Appendix Volume 1 for the Albany-Hudson Electric Trail  
March 9, 2018

WARNING: The alteration of this material in any way, unless under the direction of a comparable professional, i.e. a Professional Engineer, is a violation of the New York State Education Law and/or Regulations and is a Class ‘A’ misdemeanor.
**Title of Action:** Draft Environmental Impact Statement (DEIS)

**Project Name:** Albany-Hudson Electric Trail

**Location of Action:** Counties: Rensselaer and Columbia

City of Rensselaer, Towns of East Greenbush, Schodack, Nassau, Chatham, Kinderhook, Stuyvesant, Stockport, and Greenport and the Villages of Nassau, Valatie and Kinderhook

**SEQRA Status:** Type 1

**Lead Agency:** Greenway Conservancy for the Hudson River Valley (Conservancy)

**Contact:** Mr. Andy Beers
Empire State Trail Director
Hudson River Valley Greenway
625 Broadway, 4th Floor
Albany, NY 12207-2995
(518) 473-3835 (Telephone)
hrvg@hudsongreenway.ny.gov

**Date Completed:** March 9, 2018

**Date by Which Public Comments Must Be Submitted:** May 8, 2018

**Involved and Interested Agencies:**

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<td>NYS Department of Transportation (DOT) Region 1 and Region 8</td>
<td>City of Rensselaer</td>
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<td>NYS Office of Parks, Recreation and Historic Preservation (OPHRP)</td>
<td>Town of East Greenbush</td>
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<td>NYS Department of State (DOS), Office of Coastal, Local Government &amp; Community Sustainability</td>
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EXECUTIVE SUMMARY

ES 1. Introduction

The Greenway Conservancy for the Hudson River Valley, referred to in this document as the “Hudson River Valley Greenway” or “HRVG,” is the Lead Agency preparing a Draft Environmental Impact Statement (DEIS) to evaluate the proposed Albany-Hudson Electric Trail (AHET). The proposed project is a 36-mile-long pedestrian and bicycle trail which crosses through two counties (Rensselaer and Columbia), beginning at the northern end in the City of Rensselaer east of the City of Albany, and ending in the Town of Greenport, just north of the City of Hudson. The AHET Trail will be comprised of a combination of off-road trails (utilizing an electric utility corridor owned by National Grid) and on-road bike paths, sidewalks, and side paths (utilizing local, county, and state roadways). In total, the proposed trail encompasses approximately 27 miles off-road and 8 miles of on-road facilities. The proposed trail route is illustrated on nine (9) detailed trail segment maps in Chapter 2. (See Figures 2.3.1 - 2.3.9). Upon completion, the proposed trail will be a segment of the larger Empire State Trail (EST), a continuous 750-mile bicycling and pedestrian path which will span the state from New York City to Canada and Buffalo to Albany, creating the longest multi-use state trail in the nation.

A designated website has been created at http://www.ahettrail.org to share AHET project information and documents with the public. Information posted to the website includes a detailed Final Concept Plan, maps of the trail route, frequently asked questions, periodic status reports, and notice of upcoming public meetings. The website also includes a “Submit a Comment” function to allow interested individuals and stakeholders to submit questions and comments to the Hudson River Valley Greenway. The Submit Comment function on the website will be used to accept written public comments on the DEIS during the public comment period. All comments received on the Website during the DEIS public comment submission period will become part of the SEQRA public record and will be incorporated into the Final EIS.

The State Environmental Quality Review Act (SEQRA) requires that the potential adverse Environmental Impacts of an action be evaluated and either avoided or mitigated through design and alternatives evaluation prior to an action being undertaken, funded or granted approvals by a State agency or local government. To this end, the HRVG is undertaking this Environmental Impact review. The steps that have led up to the release of this DEIS for public comment include the following:

- A Full Environmental Assessment Form (FEAF) was completed by the HRVG in September of 2017.
- The HRVG used the FEAF to complete a request for SEQRA Lead Agency status to begin a Coordinated Review under SEQRA on October 18, 2017.
- The first step in the Coordinated review was to determine the Project’s significance, i.e., would the project potentially have any Environmental Impacts. The HRVG determined that the project has the potential for Environmental Impacts and given the size of the project, was classified as a Type I Action under SEQRA. This determination was made on November 20, 2017.
- The HRVG developed a Draft Scoping Document that was circulated for review to involved and interested public entities and was published for public review and submitted in November of 2017.
- At the close of the public comment period, the HRVG adopted the Draft Scoping document and directed the initiation of the preparation of this DEIS on November 20, 2017.
- A preliminary version of the DEIS was issued by the HRVG staff on January 22, 2018 for HRVG “Lead Agency Completeness Review”. This review culminated on March 9, 2018, resulting in the release of this DEIS for public review and comment.

SEQRA Future Steps to be Completed

- The Draft EIS public review period began on March 9, 2018.
ES 2. DEIS Contents

The DEIS provides a brief summary of proposed AHET Trail; discusses the project purpose, public need and benefits; and identifies the anticipated permits, approvals, and agency consultation necessary for project implementation. The DEIS also includes a detailed project description of the proposed trail route in each community from north to south, including illustrated trail route maps. (See Figures 2.3.1 - 2.3.9). The DEIS includes a detailed summary of the public involvement and outreach process completed from August through December 2017, which has been critical to the overall planning and design process. Finally, the DEIS identifies and evaluates the effects of the Build Alternative on land and water resources, wetlands, wildlife, historic sites, community character, and community services. Where necessary, impact mitigation methods or actions have been identified and incorporated into the DEIS.

ES 3. Purpose and Need

The purpose of the Albany-Hudson Electric Trail (AHET) is to provide residents and visitors with a new bicycle and pedestrian trail in Rensselaer and Columbia Counties. The AHET Trail will also serve as a key connection for the statewide trail system - the Empire State Trail - a continuous 750-mile bicycling and pedestrian path which will span the state from New York City to Canada and Buffalo to Albany, creating the longest multi-use state trail in the nation. There are many documented benefits associated with trail development including health and well-being, transportation, safety, economic, environmental, and community benefits. These benefits are further discussed in Section 1.4. The proposed trail will provide important recreation and economic benefits to local communities along the proposed route. Several communities have expressed, through their comprehensive planning processes, the need for improved recreational trails, and the desire to create the best public use of the Albany-Hudson Electric Trolley/National Grid corridor.

ES 4. Project Location

The proposed Albany-Hudson Electric Trail (AHET) is a 36-mile-long trail that crosses through two counties (Rensselaer and Columbia), one city, eight towns, and three villages. Beginning in the city of Rensselaer, the trail travels in a
The trail then travels southwest through Columbia County, thru the Towns of Chatham and Kinderhook, the Villages of Valatie and Kinderhook, the Towns of Stuyvesant and Stockport, and ending in the Town of Greenport, just north of the City of Hudson. Along the route, the trail passes through residential areas, historic communities, and rural landscapes, providing scenic views and offering trail users access to village Main Streets, shops and restaurants, and historic sites and other local and regional attractions located along or near the trail.

The proposed trail route primarily follows the alignment of the former Albany-Hudson Electric Trolley corridor, a historic electric trolley line that ran from the City of Hudson to Albany, making stops every few miles at a total of fourteen villages and at an amusement park on Kinderhook Lake. Today, National Grid owns the corridor and distributes electricity along that same line.

Due to various challenges of fully utilizing the off-road National Grid ROW, various on-road sections are planned for the AHET Trail. In total, the proposed trail will have approximately 27 miles off-road trail and 8 miles of on-road facilities. Safe crossing and transition recommendations are provided at all on-road/off-road crossings and on-road sections. The Empire State Trail Design Guide along with both state and federal bicycle and pedestrian facility guidelines are being utilized to determine safe and appropriate intersection treatments at each unique location. (See Figure ES 4.1) The proposed trail route is further illustrated on nine (9) detailed trail segment maps. (See Section 2.0, Figures 2.3.1 - 2.3.9). A detailed project description can be found in Section 2.0.
Figure ES 4.1
Overall Albany-Hudson Electric Trail (AHET) Alignment
ES 5. Public Involvement and Agency Coordination

The HRVG initiated public outreach and comment on the AHET Trail in August, 2017, and will continue to engage interested stakeholders, adjacent landowners, and members of the public through various meetings and other forums throughout calendar year 2018. To date, the public has been engaged in project planning in a variety of ways. The following table summarizes the public outreach process. Details can be found in Section 3.0.

Table ES 5.1: Public Information Meeting Summary: August 2017 Through February 2018

<table>
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<tr>
<th>Public Outreach Method</th>
<th>Date</th>
<th>Description</th>
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<tr>
<td>Public Meeting Columbia High School</td>
<td>August 8, 2017</td>
<td>Review the Draft Albany-Hudson Electric Trail Concept Plan with the public, answer questions and receive initial feedback about the trail concept (See Appendix 3.1).</td>
</tr>
<tr>
<td>Public Meeting Ichabod Crane High School</td>
<td>August 10, 2017</td>
<td>Review the Draft Albany-Hudson Electric Trail Concept Plan with the public, answer questions and receive initial feedback about the trail concept (See Appendix 3.1).</td>
</tr>
<tr>
<td>Project Website</td>
<td>August 2017 to present</td>
<td>A designated website was developed at <a href="http://www.ahettrail.org">http://www.ahettrail.org</a> to share AHET project information and documents with the public, provide notice of public meetings, post status reports, and relay relevant project information. The website’s “submit comment” function allows residents and community members to submit comments and concerns regarding the AHET via email. The website also contains Frequently Asked Questions (FAQs) to address common questions and concerns voiced by the public.</td>
</tr>
<tr>
<td>Project Hardcopy Flyer</td>
<td>September, 2017</td>
<td>A hardcopy flyer was mailed to every individual and business owning land adjacent to the AHET trail route (over 1,200 property owners) to ensure all interested parties were aware of the project and the proposed alignment (See Appendix 3.2).</td>
</tr>
<tr>
<td>Email and Electronic Flyers</td>
<td>August 2017 to present</td>
<td>At each public and stakeholder meeting, sign-in sheets were distributed, and email addresses were collected. These email addresses are stored in an “all-contacts” data list, which is continuously updated. The all-contacts list was used for two electronic updates mailed to the public, one in fall 2017 and one in winter 2018 (See Appendix 3.2).</td>
</tr>
<tr>
<td>Stakeholder Meetings</td>
<td>September 2017 to present</td>
<td>The HRVG participated in more than twelve public stakeholder meetings in communities spanning the 36-mile trail route. The meetings were hosted by a variety of entities, including Town Boards, Village Boards, and interested civic groups. All meetings featured short presentations about the trail concept, followed by interactive question and answer sessions with map exhibits on display. In total, more than 750 people attended the various public meetings regarding the AHET Draft Concept Plan, providing a wide spectrum of comments, questions, concerns, and statements. The planning team also visited over 55 properties to meet with adjacent landowners and hear stakeholder concerns.</td>
</tr>
<tr>
<td>Public Comment Database and Comment Summary</td>
<td>September 2017 to present</td>
<td>In addition to oral comments at public meetings, the HRVG received over 250 questions and comments from the public, including email submissions to the AHET trail website, email comments sent to AHET project staff, phone calls to staff members, email comments to the AHET designated email address, and summaries of comments left on an AHET call-in number. The database of comments was summarized and posted to the AHET website in December 2017 as an Appendix to the Final Concept Plan.</td>
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ES 6. Environmental Considerations

This DEIS considers the effects of the Build alternatives on seventeen (17) environmental categories as required by SEQRA. The following summary lists each environmental category and notes the municipality(s) where potential significant environmental impacts were identified, summarizes the nature and magnitude of these potential impacts, and concludes with the proposed mitigation measures that will be a part of the final design to ensure that the project is compliant with NYS SEQRA regulations. Table ES 6.1 describes the potential environmental effects per community organized from north to south along the proposed trail alignment. Where impacts have been identified, a further
discussion of the nature and magnitude of these impacts is provided, along with the proposed mitigation measures. See Section 4 for further details.

- **Topography and Slope:** The environmental analysis (Section 4.1.1) considered the potential impacts of the proposed project on slopes of 15% or greater. As illustrated on the series of maps in Appendix 4.1.1, Figures 4.1.1.1 – 4.1.1.9, municipalities that contain slopes greater than 15% along the off-road portion of the proposed AHET trail include: the towns of East Greenbush, Schodack, Nassau, Chatham, Kinderhook, Stockport, Greenport and the Village of Nassau. Environmental impacts to slopes greater than 15% occur only in areas that require the replacement of culverts or construction of bridges. Trail sections that utilize existing sidewalks or roadways were not analyzed as no soil disturbance is expected in those areas. To mitigate any potential impacts, erosion control and soil stabilization best management practices have been incorporated into the design to mitigate the impact of soil disturbance.

- **Surficial Geology and Soils:** The environmental analysis (Section 4.1.2) considered whether construction of the proposed project may result in erosion whether from physical disturbance or vegetation removal. As illustrated in Section 4.1.2, the majority of the proposed AHET Trail route will be constructed along an old trolley railroad bed. Due to the level and highly compacted nature of the top of the rail bed prism, there is little concern for erosion, except limited areas where steep slopes need to be modified for construction of the trail. To mitigate any potential impacts, erosion control and soil stabilization best management practices have been incorporated into the design to mitigate the impact of soil disturbance.

- **Bedrock Geology:** The environmental analysis (Section 4.1.3) evaluated if development of the proposed project would involve construction on land where bedrock is exposed or within 5 ft. of existing ground surface. The identification of bedrock along the proposed AHET Trail route was necessary to assess limitations or potential for footings or pile driven structures. With the exception of the City of Rensselaer and the Town of Greenport, all municipalities have isolated areas of bedrock within 5 ft. of existing ground surface along the proposed trail corridor. However, since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism, no disturbance to bedrock is expected. The environmental analysis further determined that no bedrock within 5’ of existing ground surface exists in the areas where construction of new bridges is proposed. In addition, all proposed culverts will be replaced in-kind, therefore, no additional bedrock removal is expected.

- **Stormwater Management:** The environmental analysis (Section 4.1.4) considered how construction of the proposed AHET Trail would potentially cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies. As discussed in Section 4.1.4, impervious areas including the trail, roads and parking lots have the potential to increase stormwater runoff and could result in the introduction of additional nutrients and pollutants into surface water resources. Without adequate control, there is the potential for pollutants to be transported by stormwater to adjacent water resources. To mitigate potential stormwater impacts during the construction phase, implementation of the designed project Stormwater Pollution Prevention Plan (SWPPP) will be required for the trail. This plan outlines the pollution prevention and erosion and sediment control measures required for the project during and following construction. The SWPPP will be developed in accordance with the "New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity" General Permit Number GP-0-15-002, effective January 29, 2015 through January 28, 2020. Existing drainage patterns will be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required. (See Appendix 4.1.4, Stormwater Disturbance Areas Map Series: Figures 4.1.4.1 – 4.1.4.9).

- **Freshwater Wetlands:** The environmental analysis (Section 4.2.1) characterized wetlands occurring within the project corridor and considered the potential impacts of construction of the proposed AHET Trail on freshwater or tidal State and Federal wetlands, as well as potential disturbance within the bed or banks of any other water body. As discussed in Section 4.2.1 and illustrated on the Federal and State Wetlands Map Series (Appendix 4.2.1, Figures 4.2.1.1 – 4.2.1.9), there are no State or Federal wetlands mapped or delineated within the Study...
Area in the City of Rensselaer, or the villages of Nassau, Valatie, and Kinderhook. Within the project Study Area, there is one wetland in the Town of East Greenbush totaling 0.0001 acres; there are sixteen wetlands totaling 1.108 acres in the Town of Schodack; there are five wetlands totaling 0.2 acres in the Town of Nassau; there is one wetland totaling 0.02 acres in the Town of Chatham; there are ten wetlands totaling 0.766 acres in the Town of Kinderhook; there are four wetlands totaling 0.85 acres in the Town of Stuyvesant; there are eighteen wetlands totaling 2.26 acres in the Town of Stockport; and there are five wetlands totaling 0.11 acres in the Town of Greenport. All together there are 5.314 acres of regulated wetlands within the project Study Area. Of this approximately 1.9 acres of wetlands will be impacted by development of the trail. All wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated through the permitting process. Innovative off-site mitigation solutions, including wetland and habitat enhancements, wetland restoration, public access and educational opportunities related to wetlands, preservation of wetland acreage, and funding of wetland protection and restoration activities, are being incorporated into the trail project to mitigate the identified wetland impacts.

- **Surface Waterbodies:** The environmental analysis (Section 4.2.2) considered the potential impacts of construction of the proposed AHET Trail on surface waterbodies, either from the creation of turbidity from upland erosion and sediment runoff, by disturbing bottom sediments and stream bed and banks, or the effect of the project on the water quality of any water bodies within or downstream of the site of the proposed action. As discussed in Section 4.2.2 and illustrated on the NYSDEC Classified Streams Map Series (Appendix 4.2.2, Figures 4.2.2.2 – 4.2.2.9), there are numerous drainage ways, streams, and watercourses that are near or bisect the proposed trail corridor, including ten (10) mapped unprotected Class C streams and six (6) protected Class C(T) or Class C(TS) streams. In addition, the proposed trail is near Nassau Lake and Kinderhook Lake. As noted in the wetland section above, all waterway impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated through the joint permitting process. In addition to minimizing and restoring crossing site impacts to the extent possible, there will be off-site waterway mitigation measures implemented in the form of riparian and wetland habitat enhancements, restoration, or creation. The comprehensive Stormwater Pollution Prevention Plan (SWPPP) will be implemented during construction to mitigate the potential of erosion and sediment transport while the trail is being built. Based on the current trail alignment and design, there will be approximately 800 linear feet of permanent and temporary impacts to streams or waterways project wide.

- **Floodplains:** The environmental analysis (Section 4.2.3) considered whether construction of the proposed AHET Trail may result in development on lands subject to flooding; development within a 100-year floodplain; development within a 500-year floodplain or if the proposed action may result in, or require, modification of existing drainage patterns. As discussed Section 4.2.3 and illustrated on the Floodplains Map Series (Appendix 4.2.3, Figures 4.2.3.1 - 4.2.3.9), there will be no impact to the existing floodplains in the City of Rensselaer, or the Towns of East Greenbush, Stuyvesant, Stockport and Greenport. As a part of the proposes trail design, six (6) bridges will be necessary to carry the Albany-Hudson Electric Trail (AHET) over existing waterbodies: Bridge 1 over the Moordener Kill in the Town of Schodack; Bridges 2, 3 and 4 over the Valatie Kill in the Village and Town of Nassau; Bridge 5 over the Valatie Kill in the Town of Chatham, and Bridge 6 over the Valatie Kill in the Town of Kinderhook. As detailed in Section 4.2.3, the analyses of both the pre- and post- development of the proposed six (6) bridge locations predicts no adverse effects to the upstream water surface elevation of the Moordener Kill or Valatie Kill during the 100-yr. design storm event. ‘No adverse effects’ refers to the New York State Department of Environmental Conservation (NYSDEC) stipulation that any new development will not result in more than one-foot rise in the base flood elevation and that whatever rise less than one-foot will not cause any previously-unaffected structures to be impacted by the new base flood elevation. Results indicate that the placement of the bridges will not have any negative impacts on flood levels and increase any floodplain or drainage conditions.

- **Endangered Plant & Animal Species:** The environmental analysis (Section 4.2.3) considered whether the construction of the proposed AHET Trail may result in population loss or reduction or degradation of any habitat
of any rare, threatened or endangered species, or species of special concern or conservation need, as listed by New York State or the Federal government; or substantially interfere with nesting/breeding, foraging, or overwintering habitat for the predominant species that occupy or use the project site. As discussed in Section 4.2.3 and illustrated in the Wetland Delineation and Ecological Report (Appendix 4.2.1), virtually all trail construction will occur on the old trolley line, National Grid’s power line right of way, or along the shoulders of public roadways. As such, pristine habitat or landscapes will not be adversely impacted. Given the disturbed nature of the National Grid right of way, construction of the proposed trail is not expected to adversely impact any of the Threatened, Endangered or Special Concern species listed by the state or federal resource agencies. Mitigation measures are therefore not anticipated at this time. Tree cutting will be minimal and will occur during winter months thereby avoiding the time of year that protected bats may be present along the project corridor. Appropriate Avoidance and Minimization Measures such as this will be employed as necessary to avoid any adverse impact to protected wildlife, plant life, or habitat.

**Agricultural Resources:** The environmental analysis (Section 4.4) considered whether the construction of the proposed AHET Trail would sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.). As discussed in Section 4.4 and illustrated on the Agricultural District Map Series (Appendix 4.4, Figures 4.4.1 - 4.4.10), there are fifty-eight (58) parcels that are adjacent to the proposed trail alignment which may contain active farming operations and are within a New York State Agricultural District. Active farming operations will not be impacted in the City of Rensselaer, Town of East Greenbush, Village of Nassau, or Town of Greenport. In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG has incorporated a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce that trail users must stay on the trail and not enter adjacent agricultural areas. Section 4.4 notes that in many places in Rensselaer and Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public and concludes that the same practice can occur adjacent to the AHET Trail.

**Historic and Archeological Resources:** The environmental analysis (Section 4.5) considered whether construction of the proposed AHET Trail would occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places; an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory; or an archaeological site not included on the NY SHPO inventory. As discussed Section 4.5 and illustrated in Appendix 4.5, the consulting firm Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase I archeological investigation for the proposed AHET Trail to comply with §14.09 of the State Historic Preservation Act. The Hartgen study will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). Hartgen completed Phase IB shovel testing, excavating nearly 600 test pits along the 36-mile study area, that demonstrated the construction of the former Albany-Hudson Electric Trolley in the late 1800s and early 1900s significantly lessened the potential for archeological resources to be impacted by construction of the AHET Trail. When the trolley line was originally developed, significant landscape modifications, including removal of soils in some areas and placement of fill in others, were undertaken throughout much of the corridor to achieve a steady grade. According to Hartgen’s analysis of the test pits, no Native American precontact artifacts, archeological features, or significant historic archeological deposits were encountered. One historic dump site was identified, containing primarily domestic materials post-dating the abandonment of the trolley. Due to the late date of this deposit (c. 1930-1960s), it has little information potential and is recommended to be ineligible for the National Register of Historic Places.

**Transportation:** The environmental analysis (Section 4.6) considered whether the construction of the proposed AHET Trail would alter the present pattern of movement of people or goods. As discussed Section 4.6 and
illustrated in Appendix 4.6, at various locations where off-road trail segments cross public roads, traffic studies have been completed to evaluate existing traffic conditions and counts including vehicular, bicycle, and pedestrian traffic. The analysis determined that the primary area of concern for the current transportation network will be potential user conflicts between pedestrian and bicycle traffic and vehicular traffic at the various roadway crossings and on-road portions of the AHET Trail. The design team, using State and Federal standards determined the most appropriate improvements to ensure trail-user safety at all crossings and on-road trail segments mitigating any potential impacts from shared use of the local transportation roadway network.

- **Human Health:** The environmental analysis (Section 4.7) considered whether the construction of the proposed AHET Trail is located within 1,500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community; whether there is a completed emergency spill remediation or a completed environmental site remediation on, or adjacent to, the site; and, whether the proposed action may result in excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste. As discussed Section 4.6, there are multiple schools and health facilities located within 1,500 feet of the proposed AHET Trail. (See Table 4.7.1). However, research has shown that the trail will not generate any adverse impact on these facilities; therefore, no mitigation is proposed in any of the study area communities. In order to acquire information on spills, remediation and hazardous sites in proximity to the trail, multiple sources were cross referenced to create an up to date list of nearby spills and/or remediation and hazardous sites and to develop a complete understanding of the locations along the trail. The New York State Department of Environmental Conservation (NYSDEC) identified that there are no identified open spills, remediation or hazardous sites in proximity to the trail route throughout Rensselaer County and no additional action is required for the development of trail plans in Rensselaer County. In Columbia County, two active spill, remediation or hazardous sites were identified within proximity to the proposed AHET Trail located in the Town of Chatham and the Town of Greenport. The design and location of the trail do not impact (nor is the trail impacted by) these two active sites and the NYSDEC has identified that there are no mitigation measures required for the development of trail plans in Columbia County. If any non-reported contamination is encountered during the construction of the trail, the spill (including soil contamination) will be called into the Spill Hotline (1-800-457-7362) within two hours of discovery. If any underground tanks are encountered, the Region 4 DEC Office will be contacted, and the appropriate remediation will be completed at that time.

- **Consistency with Community Plans:** The environmental analysis (Section 4.8) considered whether the construction of the proposed AHET Trail is “in sharp contrast to, current surrounding land use pattern(s).” As discussed Section 4.8 and illustrated on the Existing Land Use Map Series (Appendix 4.8, Figures 4.8.1.1 – 4.8.1.9), the proposed action is not in sharp contrast to the current surrounding land use patterns. As illustrated in the Section 4.8, of the approximate 1,600 parcels (1,200 property owners) adjacent to the proposed trail, 60% of the adjacent parcels are classified as Residential, and another 12% are Commercial, indicating there will be significant use of the trail by adjacent property owners for recreational and transportation purposes. The existing land use is complimentary to the future development of a recreational trail. The former Albany-Hudson Electric Trolley line offers enormous opportunity to leverage a former railway, now utility corridor, into a vital community and regional asset. Once complete, the trail is expected to provide considerable benefits to the region, attracting visitors to the scenic landscapes and community centers dotting the corridor. The need for additional trails and recreational assets has been identified in a number of local Comprehensive Plans. The proposed trail will link the communities together regionally and provide access and points of interest in each community. Although the project is exempt from local zoning and land use planning approvals, the HRVG has committed to working collaboratively with the involved local governments. As discussed in Section 3.0, HRVG has offered public officials multiple opportunities to be a part of the planning and design process for the AHET route and will continue to engage with local officials as detailed engineering plans are completed.

- **Consistency with Community Character:** The environmental analysis (Section 4.9) considered whether construction of the proposed AHET Trail is consistent with existing community character, and if it may create a demand for additional community services (e.g. police/security, fire, ambulance, emergency rescue).
There are many considerations when designing, developing, and maintaining trails to ensure consistency with community character. During the public outreach process, members of the public expressed the following community concerns. HRVG has considered these issues and developed strategies or solutions to address each of the.

Community concern has been raised by some residents regarding the possibility of an increase in crimes (i.e., trespass, vandalism, burglaries, assaults, drug use, litter) near the proposed AHET trail.

There are a large number of rail-trails and canalway trails in New York State. The universal experience is that these types of trails quickly become cherished community assets, enhancing quality of life and becoming the focus of community vitality and pride. HRVG is not aware of any increase in crime associated with trails. Fortunately, the experience of hundreds of miles of existing rail-trails across New York State demonstrates that commonly voiced concerns do not materialize. The HRVG has carefully listened to questions and concerns voiced during the public engagement process and has made modifications to the AHET Trail route where appropriate. Written trail use rules will be posted along the trail and are straightforward (no motorized vehicles, do not enter private property adjacent to the trail, the trail is open dawn to dusk, etc.). HRVG anticipates adopting a single set of rules for the entire trail. County, town, and city law enforcement agencies will be the primary response agencies, with support from New York State agencies if needed.

All trails provide benefits and challenges. As discussed in Section 1, in addition to recreational opportunities, trails provide multiple benefits for individuals and communities and these benefits are measurable and definable. As the cost of operating an automobile increases – both monetarily and environmentally – trails accommodate safer and less expensive alternatives for people to commute between home and work. Trails provide positive opportunities for outdoor recreation and engagement with the natural world, promoting healthy lifestyles and benefiting physical and mental wellbeing. Trails also afford educational opportunities, a pride of place, and interpretation of local communities’ history and development. Many communities are finding that trails are a component of their economic infrastructure and see local businesses benefit from their existence. Trails are good for the environment, good for health, good for the economy, and help improve the quality of life in every community.

Community concern has been raised regarding how will law enforcement and emergency services (EMS) be provided on the trail, and how law enforcement and emergency services (EMS) will be able to access the trail in case of an accident or emergency.

Although state law enforcement agencies will be available to provide strategic assistance, local police and EMS agencies will be the primary first responders. Table 4.9.1.1 provides an inventory of all the police, fire and ambulance services in each community along the AHET route (including NYS Police and County Sheriff Departments). It is expected that these local services have the capacity to services the trail. (See Figure 4.9.1).

The level of police and EMS responses on existing rail-trails is generally low. The proposed trail has been designed to accommodate emergency vehicles while also actively serving as a deterrent to unauthorized motor vehicles. At locations where the trail crosses public roadways, various treatments (such as signage, special curb cuts, and landscaping) will be installed to restrict motor vehicle access yet easily allow emergency and service vehicle access. The trail surface has been designed to accommodate all emergency and services vehicles.

Community concern has been raised regarding how the trail will impact property values.

Many studies, including research conducted by Realtors associations, have found that multi-use trails are an amenity that increases property values and improves the quality of life for nearby residents.

Community concern has been raised regarding the impact on community character by increased pedestrian and bicycle use on sections of the AHET Trail that will be located on local roads.
In locations where physical constraints such as interstate highways and major stream crossings preclude developing the AHET on the historical trolley bed, short sections of the proposed Trail will be designated on the shoulders of local roads. These roads are already extensively used by walkers, runners, and bicyclists. In most locations, future AHET Trail users will utilize the shoulders of roads in their existing condition, without widening or other roadway modifications. While creation of the AHET Trail will incrementally increase the number of pedestrians and bicyclists on local road sections during certain times (primarily weekends and weekday mornings and evenings during spring, summer, and fall months), trail use is not anticipated to significantly impact the character of public roadways.

Community concern has been raised regarding how the trail will be maintained, and who will be responsible for trail maintenance costs.

The AHET Trail will be operated and maintained by a collaborative partnership including the Hudson River Valley Greenway, local-county, town and village governments, and interested trail groups and volunteers. New York State will retain responsibility for long-term “capital maintenance” such as when asphalt and stone dust need to be resurfaced or safety fencing needs to be replaced (typically once every 15+ years). The HRVG does not have staff to conduct routine maintenance, such as mowing a narrow strip of grass along the trail, which will need to be done regularly during the growing season. Fortunately, regular maintenance needs are modest, and the fact that the trail crosses through a large number of towns and villages minimizes the impact on any single municipality. The HRVG has initiated conversations with local governments regarding trail maintenance agreements. In addition, the HRVG will foster the development of partnerships and “friends” groups to encourage community involvement, promote stewardship, and assist with trail maintenance and support and pursue trail adoption programs for individuals and groups to assume maintenance responsibilities.

In summary, development of the proposed AHET Trail will not result in significant adverse environmental impacts on Community Character; therefore, no mitigation is necessary.

- **Growth Inducing Impacts:**

Due to its geographic location in the Capital and Hudson Valley regions, it is anticipated that the communities along the trail may experience an increase in visitation from tourists throughout the year. There will be positive, on-going, economic impacts to the communities along the proposed trail. The proposed trail may also result in some increased recreational use of local parks and community assets near the trail heads. A positive long-term impact will be increased tax local and state revenue from tourism.

The proposed trail will not have an impact on the growth of the region. The proposed trail will attract new visitors to the region; however, this will bring positive economic impacts to the communities along the trail. There are no significant environmental impacts identified therefore no mitigation is necessary.

- **Unavoidable Adverse Impacts:**

**Short-term Unavoidable Adverse Impacts:** The planning, development and implementation of the AHET Trail including new trail construction; improvements to existing roadways for on-road delineation of the route; intersection/crossing improvements; bridge construction, and other actions proposed, will result in some short-term unavoidable adverse impacts. These will be primarily construction related (e.g. fugitive dust, noise from construction equipment and vehicles, etc.). Other temporary impacts throughout the project are associated with access, staging, and construction activities. Best management practices will be implemented to minimize short-term impacts during trail construction.

**Long-term Unavoidable Adverse Impacts:** The proposed trail will result in some unavoidable adverse impacts in the form of minor impacts to regulated wetlands. Impacts to delineated wetlands within the corridor have been evaluated. There will be approximately 1.9 combined acres of permanent direct impacts to a number of small wetland areas dispersed in narrow strips adjacent to the AHET Trail along the 365-mile route. Wetland impacts will primarily result from grading and filling in preparation for final path construction. There will be additional...
permanent impacts within the 100-foot regulated adjacent buffer area surrounding state wetlands. Although typically less significant than direct loss of wetland acreage, these adjacent area impacts will be quantified and included in any permit coverage pursued for the project.

Wetland mitigation will be determined through the federal and state permitting process administered by the U.S. Army Corps of Engineers and NYS Department of Environmental Conservation. To the extent required by the permitting agencies, innovative solutions will be implemented to compensate for wetland loss, which could include wetland restoration or enhancement on other properties in the general vicinity of the AHET trail. Wetland areas suffering temporary impacts will be fully restored and re-established to pre-impact condition through grading and seeding. These impacts would also be addressed during permitting.

- **Irreversible and Irretrievable Commitment of Resources**: At this time, it is not anticipated that the project will have any irreversible and irretrievable commitment of resources.
## Table ES 6.1: Summary of Environmental Analysis

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>City of Rensselaer</th>
<th>Town of East Greenbush</th>
<th>Mitigation Measures</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topography and Slope</strong></td>
<td>No Impact</td>
<td>No Impact</td>
<td>None</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&amp;SC measure (See Section 4.1.4).</td>
</tr>
<tr>
<td><strong>Surficial Geology and Soils</strong></td>
<td>No Impact</td>
<td>No Impact</td>
<td>None</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance (See Section 4.1.4).</td>
</tr>
<tr>
<td><strong>Bedrock Geology</strong></td>
<td>No Impact</td>
<td>No Impact</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Stormwater</strong></td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
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</tr>
</tbody>
</table>
## Executive Summary

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>City of Rensselaer</th>
<th>Town of East Greenbush</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Potential Impacts</td>
<td>Potential Impacts</td>
</tr>
<tr>
<td>Freshwater Wetlands</td>
<td>Federal Wetlands: 0.0000 Acres</td>
<td>Federal Wetlands: 0.0000 Acres</td>
</tr>
<tr>
<td></td>
<td>State Wetlands: 0.0000 Acres</td>
<td>State Wetlands: 0.0000 Acres</td>
</tr>
<tr>
<td></td>
<td>State Adjacent Area: 0.0000 Acres</td>
<td>State Adjacent Area: 0.0000 Acres</td>
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<tr>
<td></td>
<td>None required for either direct impact to wetlands or</td>
<td>None required for either direct impact to wetlands or</td>
</tr>
<tr>
<td></td>
<td>impact within the state wetland adjacent area.</td>
<td>impact within the state wetland adjacent area.</td>
</tr>
<tr>
<td>Surface Waterbodies</td>
<td>No Impact</td>
<td>150 linear feet of waterway impact</td>
</tr>
<tr>
<td>Floodplains</td>
<td>No Impact</td>
<td>Mitigation for impacts to surface waters will be developed</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>in concert with off-site measures to compensate for</td>
</tr>
<tr>
<td>Plants &amp; Animals</td>
<td>No Impact</td>
<td>project wetland impacts.</td>
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<tr>
<td>Agricultural Resources</td>
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<td>Historic &amp; Archaeological</td>
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<td>Resources</td>
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<tr>
<td>Transportation</td>
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<td>None</td>
</tr>
<tr>
<td>Schools &amp; Health Facilities</td>
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<td>None</td>
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<tr>
<td>Human Health</td>
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<td>None</td>
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<td>Consistency with Community</td>
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<tr>
<td>Plans</td>
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<td>Consistency with Community</td>
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<td>Character</td>
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<td>Growth Inducing Impacts</td>
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<td>Unavoidable Adverse Impacts</td>
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<tr>
<td>Irreversible and Irretrievable</td>
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<td>None</td>
</tr>
<tr>
<td>Commitment of Resources</td>
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<td>None</td>
</tr>
</tbody>
</table>

A full traffic study and signal warrant analysis will be reviewed by the Town and NYSDOT for the proposed location of the HAWK at US 4 (Troy Road).
## Executive Summary

Draft Environmental Impact Statement (DEIS) Albany-Hudson Electric Trail
March 9, 2018
GPI# ALB-2017132.00

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Town of Schodack</th>
<th>Village of Nassau</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential Impacts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mitigation Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topography and Slope</td>
<td>An area of concern for steep slopes is located approximately 50’ south of the trails intersection with E Hill Rd where Bridge #1 over Moordener Kill will be constructed (See Figure 4.1.1.3a). The new pedestrian bridge will be constructed on new abutments constructed behind existing abutments and include rip-rap slope protection on the embankments. There is also a section of trail that runs parallel to I-90 that will be paved asphalt to minimize erosion in that area. Another area that could affect steep slopes is near Brookside drive, where a culvert will be replaced in kind.</td>
<td>The two areas of concern for steep slopes are two pedestrian bridge crossings, Bridge #2 located approximately 450’ south of the trails intersection with NYS Route 7 and Bridge #3 approximately 1400’ south of the trails intersection with Longview Ave. that cross the Valatie Kill. The new pedestrian bridge will be constructed on new abutments constructed behind existing abutments and include rip-rap slope protection on the embankments.</td>
</tr>
<tr>
<td></td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&amp;SC measure (See Section 4.1.4).</td>
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</tr>
<tr>
<td>Surficial Geology and Soils</td>
<td>The construction of the trail will disturb Nassau-Mardin-Bernardston soils which are moderately susceptible to erosion. Due to the compacted nature of the rail bed prism, erosion is expected to be minimal.</td>
<td>The construction of the trail will disturb Windsor-Oakville-Limerick-Hoosic soils which are slightly susceptible to erosion.</td>
</tr>
<tr>
<td></td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance (See Section 4.1.4).</td>
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<td>Bedrock Geology</td>
<td>No Impact</td>
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</tr>
<tr>
<td></td>
<td>None</td>
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</tr>
<tr>
<td>Stormwater</td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is</td>
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<td></td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
</tr>
</tbody>
</table>
### Environmental Category

<table>
<thead>
<tr>
<th></th>
<th>Town of Schodack</th>
<th>Village of Nassau</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Category</strong></td>
<td><strong>Potential Impacts</strong></td>
<td><strong>Potential Impacts</strong></td>
</tr>
<tr>
<td></td>
<td>the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
</tr>
<tr>
<td><strong>Freshwater Wetlands</strong></td>
<td>Federal Wetlands: 0.3510 Acres</td>
<td>Federal Wetlands: 0.0000 Acres</td>
</tr>
<tr>
<td></td>
<td>State Wetlands: 0.0000 Acres</td>
<td>State Wetlands: 0.0000 Acres</td>
</tr>
<tr>
<td></td>
<td>State Adjacent Area: 0.6730 Acres</td>
<td>State Adjacent Area: 0.8460 Acres</td>
</tr>
<tr>
<td>Offsite mitigation measures will be developed to compensate for overall project wetland impacts</td>
<td>Offsite mitigation measures will be developed to compensate for overall project wetland impacts</td>
<td>None required for direct impact to wetlands. Mitigation for adjacent area impacts will be incorporated into the final mitigation measures</td>
</tr>
<tr>
<td><strong>Surface Waterbodies</strong></td>
<td>200 linear feet of waterway impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>Mitigation for impacts to surface waters will be developed in concert with off-site measures to compensate for project wetland impacts.</td>
<td>None</td>
</tr>
<tr>
<td><strong>Floodplains</strong></td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Plants &amp; Animals</strong></td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Agricultural Resources</strong></td>
<td>South of Miller Road, the proposed trail route abuts multiple parcels which are in the NYS Agricultural District (See Maps in Appendix 4.4).</td>
<td>In areas where the AHET Trail route is adjacent to active farm operations, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands.</td>
</tr>
<tr>
<td></td>
<td>Mitigation for impacts to agriculture will be developed in concert with off-site measures to compensate for project agricultural impacts.</td>
<td>No Impact</td>
</tr>
<tr>
<td><strong>Historic &amp; Archaeological Resources</strong></td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>There will be an estimated nine (9) crossings of local, county, and state roads in the Town of Schodack. These crossings will range from marked and signed crosswalks; to marked, signed &amp; yield with crosswalks; to Circular Flashing Pedestrian Beacon (CFPB) to use of a High-Intensity Activated crosswalk beacon (HAWK).</td>
<td>There will be an estimated two (2) local, county, and state road crossings in the Village of Nassau. These crossings will range from marked and signed with crosswalks; to Circular Flashing Pedestrian Beacon (CFPB).</td>
</tr>
<tr>
<td></td>
<td>A full traffic study and signal warrant study will be reviewed by the Town and NYSDOT for the proposed location of the HAWK along Miller Road. Additionally, there are five proposed locations of CFPB at the two ramps for I-90 at Miller Road (Exit 10) and the three (3) CR 7 crossings.</td>
<td>The location of the CFPB crossing at US 20 will be reviewed by the NYSDOT.</td>
</tr>
<tr>
<td><strong>Schools &amp; Health Facilities</strong></td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
### Executive Summary

#### Draft Environmental Impact Statement (DEIS) Albany-Hudson Electric Trail

**March 9, 2018**

**GPI# ALB-2017132.00**

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Town of Schodack</th>
<th>Village of Nassau</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Potential Impacts</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td>Human Health</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Consistency with Community Plans</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Consistency with Community Services</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Growth Inducing Impacts</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Unavoidable Adverse Impacts</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Irreversible and Irretrievable Commitment of Resources</td>
<td>No Impact</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Environmental Category

<table>
<thead>
<tr>
<th></th>
<th>Town of Nassau</th>
<th>Town of Chatham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Impacts</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&amp;SC measure (See Section 4.1.4).</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&amp;SC measure (See Section 4.1.4).</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topography and Slope</td>
<td>The only area of concern for steep slopes is located approximately 3500’ north of the trails intersection with Sweets Crossing Rd. where Bridge #4 will be constructed over the Valatie Kill (See Figure 4.1.1.4c). The new pedestrian bridge will be constructed on new abutments constructed behind existing abutments and include rip-rap slope protection on the embankments.</td>
<td>The only area of concern for steep slopes is located approximately 250’ south of the trails intersection with Little Lake Rd. where Bridge #5 will be constructed over Valatie Kill (See Figure 4.1.1.5a). The new pedestrian bridge will be constructed on new abutments constructed behind existing abutments and include rip-rap slope protection on the embankments.</td>
</tr>
<tr>
<td>Surficial Geology and Soils</td>
<td>The construction of the trail will disturb Windsor-Oakville-Limerick-Hoosic soils which are slightly susceptible to erosion. The majority of the trail follows the existing railbed prism, so erosion</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance to the Nassau-Mardin-Bernardston soils which are moderately susceptible to erosion, and Windsor-Oakville-Limerick-Hoosick soils, which are slightly susceptible to erosion. Due to the</td>
</tr>
<tr>
<td>Environmental Category</td>
<td>Town of Nassau</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Potential Impacts</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td></td>
<td>is expected to be minimal.</td>
<td>soil disturbance (See Section 4.1.4).</td>
</tr>
<tr>
<td>Bedrock Geology</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
</tr>
<tr>
<td>Freshwater Wetlands</td>
<td>Federal Wetlands: 0.0001 Acres State Wetlands: 0.0001 Acres State Adjacent Area: 2.2309 Acres</td>
<td>Offsite mitigation measures will be developed to compensate for overall project wetland impacts.</td>
</tr>
<tr>
<td>Surface Waterbodies</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Floodplains</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Plants &amp; Animals</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Agricultural Resources</td>
<td>South of the Village of Nassau, the proposed trail continues southward along the National Grid ROW and bisects four parcels which are within the NYS</td>
<td>In areas where the AHET Trail route is adjacent to active farm operations, the HRVG will incorporate a</td>
</tr>
</tbody>
</table>
# Executive Summary

## Town of Nassau

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Potential Impacts</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural District</td>
<td>Agricultural District (See Maps in Appendix 4.4).</td>
<td>variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands.</td>
</tr>
<tr>
<td>Historic &amp; Archaeological Resources</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Transportation</td>
<td>There will be an estimated one (1) local road crossing in the Town of Nassau. This crossing will consist of a marked and signed crosswalk.</td>
<td>None</td>
</tr>
<tr>
<td>Schools &amp; Health Facilities</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Human Health</td>
<td>No Impact</td>
<td>NYSDEC has identified one open spill, remediation or hazardous site in proximity to the proposed trail route.</td>
</tr>
<tr>
<td>Consistency with Community Plans</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Consistency with Community Services</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Growth Inducing Impacts</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Unavoidable Adverse Impacts</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Irreversible and Irretrievable Commitment of Resources</td>
<td>No Impact</td>
<td>None</td>
</tr>
</tbody>
</table>

## Town of Chatham

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Potential Impacts</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic &amp; Archaeological Resources</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Transportation</td>
<td>There will be an estimated six (6) crossings of local, county, and state roads in the Town of Chatham. These crossings will range from marked and signed with crosswalks; to marked, signed &amp; yield with crosswalks. An analysis will be undertaken, in conjunction with NYSDEC and Rensselaer County, to determine whether a redesign is warranted at the intersection of Bunker Hill and NYS Route 203 and CR 32 in North Chatham.</td>
<td>None</td>
</tr>
<tr>
<td>Schools &amp; Health Facilities</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Human Health</td>
<td>No Impact</td>
<td>As the trail plans develop, the necessary precautions, safety measures, and protective features will be incorporated.</td>
</tr>
<tr>
<td>Consistency with Community Plans</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Consistency with Community Services</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Growth Inducing Impacts</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Unavoidable Adverse Impacts</td>
<td>No Impact</td>
<td>None</td>
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<tr>
<td>Irreversible and Irretrievable Commitment of Resources</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td>Environmental Category</td>
<td>Town of Kinderhook</td>
<td>Village of Valatie</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Topography and Slope</td>
<td>The only area of concern for steep slopes is located approximately 4250’ south of the trails intersection with NYS Route 28 where Bridge #6 will be constructed over Valatie Kill (See Figure 4.1.1.6a). The new pedestrian bridge will be constructed on new abutments constructed behind existing abutments and include rip-rap slope protection on the embankments.</td>
<td>No Impact</td>
</tr>
<tr>
<td>Surficial Geology and Soils</td>
<td>The construction of the trail will disturb Windsor-Oakville-Limerick-Hoosick soils which are slightly susceptible to erosion; however, the majority of the trail follows the existing rail bed prism, so erosion is expected to be minimal.</td>
<td>The construction of the trail will disturb Windsor-Oakville-Limerick-Hoosick soils which are slightly susceptible to erosion; however, the majority of the trail follows the existing rail bed prism, so erosion is expected to be minimal.</td>
</tr>
<tr>
<td>Bedrock Geology</td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
</tr>
</tbody>
</table>
### Executive Summary

**Draft Environmental Impact Statement (DEIS) Albany-Hudson Electric Trail**

**March 9, 2018**

**GPI# ALB-2017132.00**

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th><strong>Town of Kinderhook</strong></th>
<th><strong>Village of Valatie</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential Impacts</strong></td>
<td><strong>Mitigation Measures</strong></td>
<td><strong>Potential Impacts</strong></td>
</tr>
<tr>
<td><strong>Freshwater Wetlands</strong></td>
<td>Federal Wetlands: 0.1111 Acres State Wetlands: 0.0089 Acres State Adjacent Area: 2.1883 Acres</td>
<td>Offsite mitigation measures will be developed to compensate for overall project wetland impacts.</td>
</tr>
<tr>
<td><strong>Surface Waterbodies</strong></td>
<td>50 linear feet of waterway impact</td>
<td>Mitigation for impacts to surface waters will be developed in concert with off-site measures to compensate for project wetland impacts.</td>
</tr>
<tr>
<td><strong>Floodplains</strong></td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Plants &amp; Animals</strong></td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Agricultural Resources</strong></td>
<td>The proposed trail passes through seven (7) properties that are within the NYS Agricultural District (See Maps in Appendix 4.4).</td>
<td>In areas where the AHET Trail route is adjacent to active farm operations, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands.</td>
</tr>
<tr>
<td><strong>Historic &amp; Archaeological Resources</strong></td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>There will be an estimated two (2) crossings of local, county, and state roads in the Town of Kinderhook. These crossing will range from marked, signed &amp; yield with crosswalks; to Circular Flashing Pedestrian Beacon (CFPB).</td>
<td>The location of the CFPB along will be reviewed by the County.</td>
</tr>
<tr>
<td><strong>Schools &amp; Health Facilities</strong></td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Human Health</strong></td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Consistency with Community Plans</strong></td>
<td>No Impact</td>
<td>None</td>
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<td><strong>Consistency with Community Services</strong></td>
<td><strong>Consistency with Community Services</strong></td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>None</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>None</td>
</tr>
<tr>
<td><strong>Growth Inducing Impacts</strong></td>
<td><strong>Growth Inducing Impacts</strong></td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>None</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>None</td>
</tr>
<tr>
<td><strong>Unavoidable Adverse Impacts</strong></td>
<td><strong>Unavoidable Adverse Impacts</strong></td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>None</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>None</td>
</tr>
<tr>
<td><strong>Irreversible and Irretrievable Commitment of Resources</strong></td>
<td><strong>Irreversible and Irretrievable Commitment of Resources</strong></td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>None</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>None</td>
</tr>
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</table>

### Environmental Category

<table>
<thead>
<tr>
<th>Village of Kinderhook</th>
<th>Town of Stuyvesant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topography and Slope</strong></td>
<td><strong>Topography and Slope</strong></td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>No Impact</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>None</td>
</tr>
<tr>
<td><strong>Surficial Geology and Soils</strong></td>
<td><strong>Surficial Geology and Soils</strong></td>
</tr>
<tr>
<td>The construction of the trail will disturb Windsor-Oakville-Limerick-Hoosick soils which are slightly susceptible to erosion; however, the majority of the trail follows the existing rail bed prism, so erosion is expected to be minimal.</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance (See Section 4.1.4).</td>
</tr>
<tr>
<td><strong>Bedrock Geology</strong></td>
<td><strong>Bedrock Geology</strong></td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>No Impact</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>None</td>
</tr>
<tr>
<td><strong>Stormwater</strong></td>
<td><strong>Stormwater</strong></td>
</tr>
<tr>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
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<tr>
<td></td>
<td><strong>Potential Impacts</strong></td>
<td><strong>Potential Impacts</strong></td>
</tr>
<tr>
<td></td>
<td>and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>of pollutant to be transported by stormwater to adjacent water resources.</td>
</tr>
<tr>
<td></td>
<td><strong>Mitigation Measures</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>construction stormwater management controls will not be required.</td>
<td></td>
</tr>
<tr>
<td>Freshwater Wetlands</td>
<td>Federal Wetlands: 0.0000 Acres</td>
<td>Federal Wetlands: 0.3875 Acres</td>
</tr>
<tr>
<td></td>
<td>State Wetlands: 0.0000 Acres</td>
<td>State Wetlands: 0.0000 Acres</td>
</tr>
<tr>
<td></td>
<td>State Adjacent Area: 0.6016 Acres</td>
<td>State Adjacent Area: 0.1910 Acres</td>
</tr>
<tr>
<td></td>
<td>None required for direct impact to wetlands. Mitigation for adjacent area impacts will be incorporated into the final mitigation measures.</td>
<td>Mitigation for impacts to surface waters will be developed in concert with off-site measures to compensate for project wetland impacts.</td>
</tr>
<tr>
<td>Surface Waterbodies</td>
<td>No Impact</td>
<td>50 linear feet of waterway impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Floodplains</td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Plants &amp; Animals</td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Agricultural Resources</td>
<td>The proposed trail passes through six (6) properties within the NYS Agricultural District (See Maps in Appendix 4.4).</td>
<td>The proposed trail passes through thirteen (13) properties that are within the NYS Agricultural District (See Maps in Appendix 4.4).</td>
</tr>
<tr>
<td></td>
<td>In areas where the AHET Trail route is adjacent to active farm operations, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands.</td>
<td>To avoid potential conflicts and impacts with dairy operations buildings at Wil-Roc Farms, the AHET Trail route will be routed on-road on Smith Road, Route 9, and Sunnyside Road. South of Sunnyside Road, the trail will be developed on the former railroad bed, on National Grid’s ROW. In areas where the AHET Trail route is adjacent to active farm operations, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands.</td>
</tr>
<tr>
<td>Historic &amp; Archaeological Resources</td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td>None</td>
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<tr>
<td>Transportation</td>
<td>There will be an estimated three (3) crossings of local, county, and state roads in the Village of Kinderhook. These crossings will range from marked, signed &amp; yield</td>
<td>There will be an estimated seven (7) crossings of local, county, and state roads in the Town of Stuyvesant. These crossings will range from marked, signed &amp; yield with crosswalks; to Circular Flashing Pedestrian</td>
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<td>The Village has provided a detailed traffic and speed study that will be reviewed and coordinated with to ensure compliance with the</td>
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### Executive Summary

#### Village of Kinderhook

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Potential Impacts</th>
<th>Mitigation Measures</th>
<th>Potential Impacts</th>
<th>Mitigation Measures</th>
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</thead>
<tbody>
<tr>
<td><strong>Schools &amp; Health Facilities</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
<td>None</td>
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<tr>
<td><strong>Human Health</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
<td>None</td>
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<tr>
<td><strong>Consistency with Community Plans</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
<td>None</td>
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<tr>
<td><strong>Consistency with Community Services</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
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<tr>
<td><strong>Growth Inducing Impacts</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
<td>None</td>
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<tr>
<td><strong>Unavoidable Adverse Impacts</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
<td>None</td>
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<tr>
<td><strong>Irreversible and Irretrievable Commitment of Resources</strong></td>
<td>No Impact</td>
<td>None</td>
<td>No Impact</td>
<td>None</td>
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</tbody>
</table>

#### Town of Stuyvesant

- With crosswalks; to Circular Flashing Pedestrian Beacon (CFPB).
- past and future initiatives. Beacon (CFPB).

---

### Town of Stockport

- There are several areas of concern for steep slope impacts one is located approximately 450’ north of the trails intersection with Keil Road where a washout of the trail prism has occurred (See Figure 4.1.1.8a). A new culvert will be installed, and the embankment filled in to existing grades and includes rip-rap slope protection on the embankments. There are also various small washouts and slope failures along the Kiel, Maas and Scali properties that will need erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&SC measure (See Section 4.1.4).

---

### Town of Greenport

- There is a small washout with four small culverts that will need culvert replacement in kind.

- Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&SC measure (See Section 4.1.4).
### Environmental Category

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Town of Stockport</th>
<th>Mitigation Measures</th>
<th>Town of Greenport</th>
<th>Mitigation Measures</th>
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</thead>
<tbody>
<tr>
<td>Culvert replacement in kind.</td>
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<tr>
<td>Surficial Geology and Soils</td>
<td>The construction of the trail will disturb Windsor-Oakville-Limerick-Hoosic soils which are slightly susceptible to erosion, and Rhinebeck-Niagara-Hudson-Dunkirk-Collamer soils which are highly susceptible to erosion. The trail aligns with the existing railbed prism; therefore, due to the nature of the level, densely compacted rail bed, minimal erosion is anticipated.</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance (See Section 4.1.4).</td>
<td>The construction of the trail will disturb Rhinebeck-Niagara-Hudson-Dunkirk-Collamer soils which are highly susceptible to erosion. The shared use portion of the trail does not have many steep sections and is separated from Claverack Creek by at least ±100 feet, therefore, it is not anticipated to be at high risk for erosion.</td>
<td>Erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary E&amp;SC measure (See Section 4.1.4).</td>
</tr>
<tr>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
<td>Impervious areas such as the trail, roads and parking lots can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. Construction phase pollutant sources anticipated for the project include sediment, vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater to adjacent water resources.</td>
<td>A Stormwater Pollution Prevention Plan will be developed and implemented that would include erosion and sediment control measures. Existing drainage patterns would be essentially unchanged from the existing condition and post-construction stormwater management controls will not be required.</td>
<td></td>
</tr>
<tr>
<td>Federal Wetlands: 0.9183 Acres State Wetlands: 0.0000 Acres State Adjacent Area: 0.0000 Acres</td>
<td>Offsite mitigation measures will be developed to compensate for overall project wetland impacts.</td>
<td>Federal Wetlands: 0.0518 Acres State Wetlands: 0.0000 Acres State Adjacent Area: 0.0000 Acres</td>
<td>Offsite mitigation measures will be developed to compensate for overall project wetland impacts.</td>
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<tr>
<td>150 linear feet of waterway impact</td>
<td>Mitigation for impacts to surface waters will be</td>
<td>50 linear feet of waterway impact</td>
<td>Mitigation for impacts to surface waters will be</td>
<td>Developed in concert with off-site</td>
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<td><strong>Potential Impacts</strong></td>
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<tr>
<td><strong>Mitigation Measures</strong></td>
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<tr>
<td>Floodplains</td>
<td>No Impact</td>
<td>No Impact</td>
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<tr>
<td>Plants &amp; Animals</td>
<td>No Impact</td>
<td>No Impact</td>
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<tr>
<td>Agricultural Resources</td>
<td>The proposed trail passes through seven (7) properties that are within the NYS Agricultural District (See Maps in Appendix 4.4).</td>
<td>In areas where the AHET Trail route is adjacent to active farm operations, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. No Impact</td>
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<tr>
<td>Transportation</td>
<td>There will be an estimated nine (9) crossings of local, county, and state roads in the Town of Stockport. These crossings will range from marked, signed &amp; yield with crosswalks; to Circular Flashing Pedestrian Beacon (CFPB).</td>
<td>Any improvements to the crossings at the intersections of any state, county, or local roads will be coordinated with local owners. There will be an estimated four (4) crossings of local, county, and state roads in the Town of Greenport. These crossings will range from marked, signed &amp; yield with crosswalks; to Circular Flashing Pedestrian Beacon (CFPB). In addition, the traffic signal at the intersection of Livingston Avenue will be upgraded to include pedestrian activation phases across US Route 9.</td>
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<tr>
<td>Schools &amp; Health Facilities</td>
<td>No Impact</td>
<td>No Impact</td>
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<tr>
<td>Human Health</td>
<td>No Impact</td>
<td>As the trail plans develop, the necessary precautions, safety measures, and protective features will be incorporated. The representative from Columbia County was able to identify one open spill, remediation or hazardous site in proximity to the proposed trail route through the Town.</td>
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<tr>
<td>Consistency with Community Plans</td>
<td>No Impact</td>
<td>No Impact</td>
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<tr>
<td><strong>Mitigation Measures</strong></td>
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<td>developed in concert with off-site measures to compensate for project wetland impacts.</td>
<td>measures to compensate for project wetland impacts.</td>
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## Executive Summary

### Draft Environmental Impact Statement (DEIS) Albany-Hudson Electric Trail

March 9, 2018

GPI# ALB-2017132.00

### Environmental Category

<table>
<thead>
<tr>
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</table>
ES 7. Summary of Project Alternatives

Consistent with the requirements of the State Environmental Quality Review Act (SEQR), environmental considerations were among the criteria used in evaluating alternatives for the proposed trail route. Categories of impacts that were evaluated were: land resources, water resources, biological resources/ecology, historic and archeological resources, traffic and access, public health and safety, as well as growth and character of the community and neighborhood. The proposed trail route has been conceptually designed to minimize impacts in all of these areas. The AHET Trail Draft Concept Plan was issued on August 7, 2017. During the five-month period from August through December, the AHET Trail design team, comprised of staff from the HRVG, Greenman-Pedersen, Inc. (GPI), and Alta Planning + Design (Alta), further studied the entire 36-mile route from the City of Rensselaer to the Town of Greenport, and carefully reviewed comments submitted by local officials, stakeholders, and members of the public. Factors such as safety considerations, mitigation of potential environmental impacts, and cost-effectiveness of various options were carefully considered in the decision-making process on the various alternatives.

Section 8 describes two alternatives. The first is the No Action Alternative, and the second describes the various alternative Build Alternatives considered in development of the final Preferred Alternative described in this DEIS.

No Action Alternative

Under this alternative, the AHET Trail would not be constructed. The National Grid ROW would remain exclusively used for utility transmission, and the existing roadways would remain in their current condition and would continue to operate as they are now. The No Action alternative would eliminate the benefits described previously. (See Section 1). The many benefits associated with trail development including health and well-being, transportation, safety, economic, environmental, and community benefits will remain unrealized.

Build Alternatives

Overall, the AHET Trail as proposed in this DEIS remains largely the same to the original route proposed in the Draft Concept Plan issued in August 2017, predominantly following the historic trolley corridor for approximately 78% of the route, now owned by National Grid. However, after further analysis, the design team revised the proposed trail route in discrete sections where appropriate. The specific changes to the route are described in Section 8 and the updated AHET Trail route is described in detail in Section 2 and illustrated nine (9) detailed trail segment maps. (See Figures 2.3.1 - 2.3.9).

The specific changes to the route in the Final Concept Plan are bulleted below, (presented in “north to south” order.

City of Rensselaer

- There are no alternative options in the City of Rensselaer.

Town of East Greenbush

- An additional trail head was added.
- The AHET Trail route will be designated as a shared pedestrian/bicycle roadway directly on Southern Avenue.
- A large culvert will be installed behind the Funplex, eliminating the need for a bridge at this location.
- At the Route 4 crossing, a High-Intensity Activated Crosswalk (HAWK) signal will be installed to provide for pedestrian and bicycle safety (instead of the originally proposed CFPB Crossing at the Route 4 crossing).
- Point View Drive, Tamarack Lane and Greenwood Drive will be designated an on-road portion of the AHET Trail bypassing the National Grid ROW between Point View Drive and Greenwood Drive.

Town of Schodack

- At the Miller Road crossing, the Final Concept Plan recommends that due to slope constraints and Interstate 90 (I-90). The trail will transition to on-road facilities at Old Miller Road.
Executive Summary

- A shared roadway and sidepath will be built on Old Miller Road and Miller Road, respectively.
- A High-Intensity Activated Crosswalk (HAWK) signal will be installed at the intersection of Miller Road and Empire State Boulevard.
- South of Miller Road, a paved shared-use path will run along the eastern side of I-90, within the I-90 right-of-way, to connect back to the AHET Trail corridor.
- An off-road trail will be constructed on the National Grid ROW from Route 150 to the intersection with East Hill Road instead of the originally planned on-road Section along State Route 150 and County Route 7 in East Schodack.
- On-road facilities will be included for a short distance on East Hill Drive.
- The location of the proposed Schodack Trailhead will be moved from the originally proposed Reno Road location to a vacant county-owned parcel adjacent to County Route 7.

**Village of Nassau**

- An informal access driveway south of Albany Avenue (Route 20) in Nassau will be utilized as a paved shared roadway.

**Town of Nassau**

- There are no alternative options in the Town of Nassau.

**Town of Chatham**

- A continuous off-road path from Route 32 in North Chatham to the point where it intersects with Electric Park Road will replace the originally planned on-road section along State Route 203 from Little Lake Road to Electric Park Road.

**Town of Kinderhook and Villages of Kinderhook and Valatie**

- In the Village of Valatie, an ADA compliant ramp will be added at the intersection of the off-road trail and Main Street adjacent to the historic Depot structure.
- In the Village of Kinderhook, the trailhead parking area will be located at Rothermel Village Park, where the village playground and little league fields are located (instead of the prior proposed location at Mills Park). The new location at Rothermel Park is much larger and can better accommodate trail parking and provides access to existing park amenities including seasonal restrooms and picnic tables.
- A Circular Flashing Pedestrian Beacon (CFPB) will be used where the AHET Trail crosses Albany Avenue and Eichybush Road.

**Town of Stuyvesant**

- The AHET Trail will not be developed on National Grid ROW where it passes through a large dairy building complex at Wil-Roc Farms. Instead the trail will be a separated sidepath/shared roadway along Smith Road to the intersection of Route 9; the route will continue as a separated sidepath south along the west side of Route 9; the route will cross Route 9 using a safe pedestrian crossing treatment and follow Sunnyside Road as a shared roadway south back to the National Grid ROW.
- In Stuyvesant Falls, an additional 500-foot section of off-road trail will be built on the ROW from Route 25a to New Street, including appropriate trail crossings at Route 25a, Frisbee Lane, and New Street. Also, a small new trailhead parking area is proposed at Stuyvesant Falls.
- In the hamlet of Stockport, a 1.83-mile trail section will be designated as an on-road route utilizing Rossman Road, Route 25, and Urban Road due to missing long span former railroad bridges over the Kinderhook Creek and Claverack Creek, as well as ROW real property ownership limitations.

**Town of Stockport and Town of Greenport**

- In Stottville, the proposed AHET Trail will not be designated as an on-road route along Atlantic Avenue, Fairview...
Avenue (Route 9), and Joslen Boulevard. Instead, the AHET Trail will continue as an off-road trail running south of Atlantic Avenue through Stockport and into Greenport (two miles of additional off-road trail). The off-road trail will end at the intersection with Kipp Lane. The AHET Trail will then follow a new separated sidepath for a short distance (700 feet) along the east side of Fairview Avenue (Route 9).

- Stottville Trailhead. A trailhead parking area in Stottville is proposed at the existing town park and little league field on Park Place.
1.0 INTRODUCTION

1.1 Background

The concept of creating the Albany-Hudson Electric Trail (AHET) has been proposed for more than a decade. In 2010, the New York State Office of Parks, Recreation and Historic Preservation adopted the overall NYS Trails Plan and Generic Environmental Impact Statement (GEIS). This Plan and GEIS provides a statewide framework to guide future trail planning and development and identifies trail related issues and strategies to address them. The Plan identified several potential “primary greenway trails”, one of which is the AHET which will primarily utilize the former Albany-Hudson Electric Trolley corridor that historically ran from the City of Hudson to the City of Rensselaer. The 2010 NYS Trails Plan and GEIS outlines that review of site-specific environmental impacts and benefits will be accomplished as individual trail segments are advanced to the formal design and construction phase. Minimization of potential environmental impacts will be accomplished throughout the planning, project-specific environmental review, and public outreach and participation.

Building upon the momentum of the NYS Trails Plan and GEIS, two prior studies were funded by the Hudson River Valley Greenway (HRVG) and completed for the AHET as follows:

- 2008-11: Albany-Hudson Electric Trail Feasibility Study, led by the Towns of East Greenbush, Schodack, Nassau and the Village of Nassau; and

In January 2017, Governor Cuomo announced the creation of the Empire State Trail, which when completed in 2020 will be a 750-mile bicycle and pedestrian route spanning New York State. The enacted FY2017-18 budget appropriated $200 million for development of the Empire State Trail. The Empire State Trail (EST) will follow three primary trunks – the Hudson River Valley Greenway, Erie Canalway, and Champlain Canalway Trails – consistent with the 2010 NYS Trails Plan.

Under the Governor’s initiative, five state entities along with a number of local governments will undertake sixty discrete construction projects to complete the Empire State Trail, ranging from the development of major new rail-trail and Canalway trail segments, to minor on-road pedestrian and bicycle improvements. The state or local government entity undertaking each project will be responsible for securing required environmental permits and completing project-specific State Environmental Quality Review Act (SEQRA) and historic preservation reviews, consistent with the 2010 NYS Trails Plan and GEIS.

In the Hudson Valley, the proposed AHET trail is identified as the Empire State Trail route in portions of Rensselaer and Columbia Counties. Recognizing the need for regional considerations and guidance, the Hudson River Valley Greenway (HRVG) is the lead state entity responsible for planning and developing the Albany-Hudson Electric Trail. In August 2017, the Conservancy issued the Albany-Hudson Electric Trail Draft Concept Plan. The Final Concept Plan, completed in January 2018, identified a preliminary preferred trail alignment for the proposed 36-mile AHET route which would provide important recreation, public health, transportation, and economic benefits. The AHET will be an ADA Accessible pedestrian and bicycle trail using, wherever feasible, the former Albany-Hudson Electric Trolley corridor, crossing through two counties (Rensselaer and Columbia), one city, eight towns, and three villages. The trail will attract hikers, bikers, and cross-country skiers and provide access to destinations, heritage areas, historic sites, as well as shops, galleries and restaurants within historic districts and downtowns.
1.0. Introduction

During the process of developing this Environmental Impact Statement (EIS) and final trail design plans, the Conservancy examined all viable alternatives, and worked with elected and local officials, transportation experts, bicycling and trails organizations, and private land owners to analyze the alternatives and potential impacts in a comprehensive and detailed manner. This comprehensive effort resulted in a proposed trail design that will avoid, minimize, and mitigate environmental impacts, while implementing the most technically feasible trail development project.

1.2 Project Sponsor Information

The project sponsor for the AHET Trail is the Greenway Conservancy for the Hudson River Valley, referred to in this document as the “Hudson River Valley Greenway” or “HRVG.” The HRVG is the Lead Agency that will undertake the design and development of the Albany-Hudson Electric Trail (AHET), securing required environmental permits, and completing project-specific State Environmental Quality Review Act (SEQRA) and historic preservation reviews.

1.3 Study Area and General Environmental Setting

Vicinity/Location

The proposed Albany-Hudson Electric Trail (AHET) crosses through two counties (Rensselaer and Columbia), one city, eight towns, and three villages. Located on the eastern side of the Hudson River, the proposed project is a 36-mile-long trail beginning at the northern end in the City of Rensselaer just east of the City of Albany and ending in the Town of Greenport, just north of the City of Hudson. Beginning in the City of Rensselaer the trail travels in a southeastern direction, running through the Towns of East Greenbush, Schodack, and the Town and Village of Nassau. The trail then travels southwest through Columbia County, bisecting the Towns of Chatham and Kinderhook, the Villages of Valatie and Kinderhook, the Towns of Stuyvesant, Stockport, and Greenport. The southern terminus of the trail is approximately 0.5 mile from the City of Hudson. Along the route, the trail goes through historic communities in the rural landscape of the Hudson Valley, providing scenic views, and offering users access to village Main Streets, shops and restaurants, and historic sites and other local and regional attractions located in close proximity to the trail.

The proposed trail route primarily follows the alignment of the former Albany-Hudson Electric Trolley corridor. The old electric trolley line was originally run on electricity generated from hydropower at the dam in Stuyvesant Falls. The railway ran from the City of Hudson to Albany, making stops every few miles at a total of fourteen villages and at an amusement park on Kinderhook Lake. Today, National Grid owns and distributes electricity along the former railroad corridor. The history of the electric trolley and its conversion to a modern power line provides a unique opportunity for education and interpretation in communities along the trail.

Due to a mix of environmental and engineering challenges, such as wetlands and streams, unstable soil conditions, overlapping highways, missing trolley bridges, and terrain, the trail must deviate from the former rail bed in some locations. Several on-road routes have been proposed and evaluated as alternatives. In total, the proposed trail comprises approximately 26 miles of off-road and 10 miles of on-road facilities. Once complete, the trail is expected to provide considerable benefits to the region, attracting visitors to the scenic landscapes and community centers throughout the corridor.
1.4 Project Purpose, Goals, Public Need and Benefits

The Albany-Hudson Electric Trail will provide residents and visitors a much needed and desired multi-use trail that will upon completion be linked to the Empire State Trail, a continuous 750-mile bicycling and pedestrian path which will span the state from New York City to Canada and Buffalo to Albany, creating the longest multi-use state trail in the nation. The AHET is an important part of the Empire State Trail and has the potential to serve as a key connection for the statewide trail system, providing important transportation and recreation benefits, and helping connect people to the Hudson River Valley landscape. Local communities along the proposed trail have expressed through their comprehensive planning process the need for improved recreational trails. The projects consistency with community plans and zoning is discussed further in section 4.8.

There are many benefits associated with trail development including health and well-being, transportation, safety, economic, environmental, and community benefits. All these benefits will be realized within the Hudson River Valley, and across the State of New York, once the trail is constructed.

Health and Well-Being

The AHET will improve the health and well-being for local resident and visitors as access to outdoor activities increases participation in healthy lifestyles and improves the academic performance of children. Regular exercise reduces the likelihood of heart and respiratory disease. People with access to trails exercise more regularly than those without access to similar recreational opportunities. With a growing epidemic of obesity, the project promotes healthier living. The lack of, or inadequacy of, sidewalks and bicycle paths are often cited as contributing factors to this nationwide problem of obesity. The project will provide opportunities for increased physical activity by incorporating active design elements that promote walking, jogging and cycling. For example, a cost-benefit analysis of bike/pedestrian trails in Lincoln, Nebraska, conducted in 1998 demonstrated reduced health care costs associated with trail use. Data was obtained from the city's 1998 Recreational Trails Census Report and the literature. Per capita annual cost of using the trails was U.S.$209.28 ($59.28 construction and maintenance, $150 of equipment and travel). Per capita annual direct medical benefit of using the trails was $564.41. The cost-benefit ratio was 2.94, which means that every $1 investment in trails for physical activity led to nearly $3.00 in direct medical benefit. ¹ Similarly, the US Department of Veterans Affairs, National Center for Post-Traumatic Stress Disorder (PTSD) suggests that veterans should practice different modes of relaxation methods, including use of trails and spending time outdoors. Numerous other studies have documented the beneficial impacts of outdoor recreation and exercise to improved physical and mental health. ²

Transportation

The proposed project will have several beneficial impacts on the community by promoting improved travel safety for bicyclists and pedestrians by offering a safer, fully ADA accessible surface for residents and tourists. Trails provide non-
motorized transportation alternatives for people without access to cars or transit as well as for those wanting to choose a healthier transportation alternative. Construction of the trail will increase mobility and accessibility by providing a new recreational opportunity.

Safety

Trails provide safer recreational opportunities for all users. They provide a designated space for bicyclists and pedestrians and minimize interactions with motor vehicle traffic. The completed trail will provide for a safe location for outdoor recreation and for children and families to travel between places where residents live, work, shop and play. The trail will be fully ADA compliant and provide recreational access to persons with disabilities and users of all ages and abilities.³

Economic

The proposed project will foster long-term economic benefits by linking the Capital District and Hudson Valley’s local parks, historic sites, natural areas, cultural events and other remarkable attractions with a system of off road and on-road trails. When completed, the AHET will be part of the larger 750-mile Empire State Trail, which when completed in 2020 will be the longest state multiuse trail in the nation. Economic impact studies have consistently shown that trail visitors generate significant positive economic impacts for local communities. Economic benefits derive from two major sources: total trip related expenditures and additional expenditures made by users on durable goods related to their trail activities. Regional visitors and long-distance tourists will benefit historic sites, parks, local businesses, and tourist attractions along the trail.

The proposed project strengthens the sustainability of the existing communities through the introduction of expanded transportation and recreational alternatives. With an average of 12% of residents living below the poverty level in Rensselaer and Columbia counties, the trail will provide the low-income residents with access to free outdoor recreational opportunities. The project will increase tourism and bring new income to local businesses within communities along the AHET trail route.⁴

Education

Not only do trails provide outdoor learning opportunities, but children with access to open space resources demonstrate higher academic achievement, better attendance, and higher levels of concentration. They also provide children with the opportunity to discover local natural and cultural heritage.

Environment

 Trails benefit the environment as well as the people they serve. Trails provide opportunities for habitat protection and enhancement, stormwater and flood retention, improved water and air quality, conservation of natural and cultural resources, and scenic views. According to the US Department of Transportation, Federal Highway Administration:

“Trail projects address current issues of health, livability, climate change, and safety. In discussions about the role of human effects and interventions related to climate change, trails are seen as having a positive effect. In making efforts toward reducing greenhouse gases, for instance, facilities and improvements to encourage more bicycling and walking can reduce driving. Finally, trails make an important contribution to the environment by preserving green space. Trail and greenway corridors provide an opportunity for replanting trees as well as creating and rehabilitating wetlands and other

³ “Rail-Trails and Safe Communities: The Experience on 372 Trails” Tammy Tracy and Hugh Morris, Rails-to-Trails Conservancy, 1998.  
habitat. In urban areas in particular, trail corridors maintain open space that is a respite from the built environment.”


Civic Engagement

Trails provide opportunities for diverse groups of people to discover common interests and form a sense of community. Whether as a means of improving quality of life, our health, our children’s well-being or our natural places, civic leadership springs from community engagement. When neighbors are engaged, employers are enthused, and visitors are attracted, the vitality of a community is enhanced.

1.5 Anticipated Approvals, Reviews and Permits

The anticipated permits and approvals required for the proposed AHET are listed below.

**Table 1.5.1: Anticipated Approvals, Reviews and Permits**

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<thead>
<tr>
<th>Regulatory Agency</th>
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2.0 PROJECT DESCRIPTION

2.1 Overview

The proposed AHET trail route primarily follows the alignment of the historic trolley route (currently the National Grid right-of-way/ROW). Along the route, the trail route provides trail destinations such as shops, galleries and restaurants, scenic views, and historic buildings and sites offering significant potential for historical interpretation along the corridor.

Due to various physical challenges and obstacles in certain locations on the National Grid ROW, various on-road segments are recommended for the AHET trail. In total, the proposed trail is approximately 36 miles long, with approximately 26 miles off-road and 10 miles of on-road facilities. Safe crossing and transition recommendations are provided at all locations where off-road trail sections cross roadways. Intersections are highlighted at locations where bicycles and pedestrians will make a turn from one road to another while using recommended on-road facilities. The Empire State Trail Design Guide will be utilized when determining the safest and most appropriate intersection treatment depending on the location. The proposed trail route is illustrated on nine (9) detailed trail segment maps. (See Figures 2.3.1 - 2.3.9).

Table 2.1.1: Breakdown of On-road Vs. Off-road Trail Miles Per Municipality

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<th>Municipality</th>
<th>Off-Rd (miles)</th>
<th>On-road (miles)</th>
<th>Combined (miles)</th>
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<td>3.04</td>
<td>5.35</td>
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<td>6.59</td>
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<td>0.93</td>
<td>2.71</td>
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<td><strong>25.94</strong></td>
<td><strong>10.02</strong></td>
<td><strong>35.96</strong></td>
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2.2 Trailhead Locations

Nine Trailheads are proposed to provide users easy access to the AHET trail. Trailheads include parking areas and wayfinding signage and may include various amenities such as bike repair stations, benches, picnic tables, and bike racks. Trailheads are proposed at the following locations:

1. City of Rensselaer (Rensselaer County), Riverfront Park.
2. Town of East Greenbush (Rensselaer County), Clinton Street. The Final Concept Plan recommends an existing DOT-owned parking lot, located on the southeast side of Clinton Street where it intersects with Route 20, be designated a Trailhead parking location.
3. Town of Schodack (Rensselaer County), The location of the proposed Trailhead parking lot is on a county-owned parcel adjacent to Amelia Court, just off County Route 7.

4. Village of Nassau (Rensselaer County), Municipal Park on Fairgrounds Street.

5. Town of Kinderhook (Columbia County), National Grid property near Knollwood Drive & County Route 28.

6. Village of Valatie (Columbia County), Ridge Drive.

7. Village of Kinderhook (Columbia County), Kinderhook Village Playground: The Final Concept Plan proposes locating the Trailhead parking area at Rothermel Village Park, where the village playground and little league fields are located. This location accommodates trail parking and provides access to existing park amenities including seasonal restrooms and picnic tables.

8. Town of Stuyvesant (Columbia County), Hudson Avenue (County Route 25A) & Woods Ln. A small Trailhead parking area is proposed at Stuyvesant Falls.

9. Town of Stockport (Columbia County), Stockport Park. The Final Concept Plan proposes to create a Trailhead parking area in Stottville at the existing town park and little league field on Park Place. The plan anticipates installing improved parking facilities, amenities, and landscaping where cars currently are parked adjacent to the ballfield on Park Place.

Development of Trailheads proposed on public property will require approval of the county, town, or village that owns each site. Each trailhead design will be unique, reflecting specific needs and opportunities at each location.

2.3 Detailed Description of Proposed Trail Route

The following is a detailed description of the proposed trail route in each community from north to south. The proposed trail route is illustrated on nine (9) detailed trail segment maps. (See Figures 2.3.1 - 2.3.9).

City of Rensselaer

At the northern end, the trail route begins at the proposed Trailhead in the City of Rensselaer Riverfront Park on the east side of the Hudson River. This segment of the trail offers pedestrians safe off-road accommodations via the existing sidewalk system along Broadway and Columbia St (US Route 9), which turns into Columbia Turnpike at the East Greenbush town line. For bicyclists, an on-road bike lane will be designated along Broadway beginning near the Dunn Memorial Bridge, until it reaches Third Avenue, where it travels in an easterly direction through the City toward the Town of East Greenbush, where it continues east on Third Avenue Extension. (See Figure 2.3.1).

Town of East Greenbush

In the Town of East Greenbush, the AHET route offers several distinct user options depending on the location. Near the East Greenbush/Rensselaer boundary at the intersection of South Street and Columbia Turnpike, the trail route offers pedestrian off-road accommodations on the existing sidewalk system. A Trailhead is proposed at an existing DOT-owned parking lot, located on the southeast side of Clinton Street where it intersects with Columbia Turnpike. At the East Greenbush/Rensselaer boundary near Grove St, the trail is in the form of an on-road bike lane on Third Avenue Extension (SR 151) which turns south on Barrack Rd./Redhill Rd. (SR 151), then southwest on to Sherwood Avenue (CR 59), then southeast onto Muriel Avenue to the intersection of Hampton Avenue, where it travels west to the intersection of Southern Avenue behind the East Greenbush Town Hall. At this point, the trail route changes to a walk/bike roadway. A minor crossing is necessary at Madison Avenue. At the southern terminus of Southern Avenue, the route continues as an off-road shared use path along the National Grid right-of-way (ROW) until just northwest of Old Troy Rd. where the trail becomes a walk/bike roadway along Brossel Rd. Minor crossings are necessary at Mine Rd., CSC Way, Corellis Drive, Forrest Drive, Forrest Point Drive, and Old Troy Rd. A large gully exists behind the Funplex complex, creating a break in the trail that must be addressed. Further analysis has determined that installing a culvert and placing...
fill to restore the ROW can meet applicable environmental standards and is a cost-effective approach. South of Old Troy Rd., the trail transitions back to off-road shared use path on the National Grid ROW until the right-of-way crosses Route 4, where a high-intensity activated crosswalk (HAWK) signal will be installed to provide for pedestrian and bicycle safety at this location. The AHET design team will further consult with NYSDOT before finalizing the appropriate Route 4 crossing treatment. South of the Route 4 crossing, the trail continues off-road, crossing over Elliot Rd. to the intersection of Point View Drive, where it transitions again to a walk/bike roadway. The trail continues east and to the intersection of Tamarack Ln, and then turns south until it intersects with Greenwood Drive. where it turns east for roughly 200 feet, finally linking back in with the National Grid ROW south to the Schodack town line. Minor crossings are necessary at Electric Avenue and Horizon View Drive West. (See Figure 2.3.2).

**Town of Schodack**

At the East Greenbush/Schodack town line, the trail route continues southward along the National Grid ROW until it intersects with Old Miller Rd. where it becomes a walk/bike roadway for a short distance to the intersection of Miller Rd where it becomes a Side Rd. For user safety, the installation of a high-intensity activated crosswalk (HAWK) signal at the intersection of Miller Road and Empire State Blvd is proposed. At the two I-90 ramp crossings, a Circular Flashing Pedestrian Beacon (CFPB) is the proposed crossing treatment. The AHET design team will further consult with NYSDOT before finalizing the Miller Road crossing treatments. The Side Path travels eastward under the Interstate 90 bridge (Exit 10 Interchange), where the trail takes a hard turn south to tie back into the off-road National Grid ROW. The trail remains an off-road shared use path within the Town of Schodack, with the exception of two areas where the trail will transition to a walk/bike roadway. A minor crossing will be necessary at Reno Road, where a marked and signed crosswalk is proposed, and a major crossing at East Schodack Road (SR 150) where a CFPB is proposed. South of Route 150, the trail continues as an off-road shared use path on the National Grid ROW to the intersection with East Hill Road. A new bridge will be installed across the Moordener Kill. At the intersection of East Hill Road, the trail will become a walk/bike roadway for about 650 feet. After this short East Hill Road section, the trail continues southwest as an off-road shared use path on the National Grid ROW, with a minor crossing at Rice Road. Roughly 0.6 miles south of Rice Road, a Trailhead is proposed to be located adjacent to Amelia Court, just off County Route 7. At the intersection of Best Road, the trail transitions to a walk/bike roadway on Trolley Way, just west of Nassau Lake. The trail route continues south as an off-road trail on the National Grid ROW from Long Branch Road to Donna Ln, where a major crossing of County Route 7 is proposed with a CFPB. Further study will be required during the engineering design phase to consider constraints at this location. The trail will have an additional major crossing at Route 7 south of this location near the Village of Nassau boundary. The trail will then continue south along the National Grid ROW for about 430 feet until it crosses over the Valatie Kill as it approaches the Village of Nassau boundary. (See Figure 2.3.3).

**Village of Nassau**

The trail route continues to travel southward along the National Grid ROW into the Village of Nassau. The trail remains off-road through most of the village, except for a 750-foot segment south of the US Route 20 crossing where it temporarily transitions to a walk/bike roadway. This on-road segment ends at the proposed Village of Nassau Trailhead which will be located on Village parkland just south of the Nassau Fire & EMS building (north of Fairgrounds St). From the proposed Trailhead the trail continues south along the National Grid ROW until it again crosses over the Valatie Kill, back into the Town of Schodack for roughly 2,000 feet, until it passes into the Town of Nassau. (See Figure 2.3.4).

**Town of Nassau**

The Town of Nassau segment of the trail is completely off-road, following the National Grid ROW which runs roughly along the western boundary of the town, bordered by the Valatie Kill. This segment of the trail requires the construction of a bridge over the Valatie Kill, and one minor road crossing at Sweets Crossing Road where a marked and signed crosswalk will be installed. The proposed Trailhead serving the Town of Nassau will be located in the Village of Nassau. (See Figure 2.3.4).
Town of Chatham

At the Nassau/Chatham town line, the trail intersects with Interstate 90, and travels east parallel to I-90 for roughly 1,200 feet where it transitions to a shared roadway along NYS Route 203. The trail then travels southwest to the intersection of CR 32 in North Chatham and travels west for roughly 1,100 feet along CR 32 as a shared roadway to the intersection with Depot Street where it turns south to link up with the National Grid right-of-way again. From Route 32 the trail continues off-road for about 1.8 miles, with minor crossings proposed at Waldorf Road and Little Lake Road, and a new proposed bridge over the Valatie Kill, to the point where it intersects with Electric Park Road. At this point the trail transitions to a walk/bike roadway following Niagara Mohawk Road, just east of Kinderhook Lake, for roughly 1,400 feet to the intersection of East Shore Drive. South of East Shore Drive, the trail travels south along the National Grid ROW for approximately 0.5 miles to the Chatham/Kinderhook town line. (See Figure 2.3.5).

Town of Kinderhook

The trail enters the Town of Kinderhook just south of Kinderhook Lake, and follows the National Grid ROW throughout the town for approximately 2 miles. A minor crossing will be necessary at Parker Hill Road. At this point trail users could easily access the hamlet of Niverville via Parker Hill Road. A major crossing will be needed at CR 28 where a Circular Flashing Pedestrian Beacon (CFPB) is proposed and a new bridge will be necessary to cross over the Valatie Kill. The Trailhead is proposed to be located off CR 28 just south of Knowlwood Drive. (See Figure 2.3.6).

Village of Valatie

The trail enters the Village of Valatie at the Town of Kinderhook/Village of Valatie boundary, and continues off-road along the National Grid ROW through the entire village. In the central portion of the village, the trail crosses over Main Street where it intersects with Route 9 and passes by the Nathan Wild House and Wild’s Mills National Historic Sites. A Trailhead is proposed on the western side of the trail on Ridge Drive. Roughly 600 feet south of the proposed Trailhead, the ROW intersects with Main Street and transitions to a Side Path paralleling the US Route 9 ramp until it intersects with River Street, where the Side Path follows River Street south for roughly 70 feet until must cross over River Street to intersect with the National Grid ROW. Between River Street and State Highway 9H, the trail remains an off road shared use path along the ROW. After crossing under SH 9H, the trail separates into a parallel bike lane along Kinderhook Street (US Route 9). The sidewalk system along Route 9 exists for pedestrians in the Village of Kinderhook. (See Figure 2.3.6).

Village of Kinderhook

Just south of State Highway 9H, the trail enters the Village of Kinderhook at the Kinderhook/Valatie boundary. The separated on-road bike lane and sidewalk system continue along US Route 9 until it commences at the intersection of Chatham Street, where the trail transitions to a shared use path along the National Grid ROW throughout the rest of the village. The trail briefly re-enters the Town of Kinderhook for roughly 1,500 feet until the ROW intersects with Pine Oak Drive at the Town of Kinderhook/Town of Stuyvesant boundary. Major crossings will be necessary at US Route 9, Albany Avenue and EichyBush Road, where Circular Flashing Pedestrian Beacons (CFPB) are proposed for safe crossing. Minor crossings will be necessary at Gaffney Ln and Pine Oak Drive, where marked and signed crosswalks will be installed for safe crossing. The design team continues to evaluate the preferred road crossing design for providing safe passage for pedestrians and bicyclists through the Main Street/Route 9 intersection. (See Figure 2.3.6).

Town of Stuyvesant

At the intersection of the National Grid ROW, the trail enters the Town of Stuyvesant at the intersection of Pine Oak Drive near the Town of Kinderhook/Town of Stuyvesant boundary. The trail remains off-road following the National Grid ROW for roughly 0.3 miles until it intersects with Smith Road and turns to the east where it transitions to a Side Path along Smith Road and US Route 9. At the intersection of US Route 9 and Sunnyside Road, a major crossing is proposed with a Circular Flashing Pedestrian Beacon (CFPB). At this point the trail transitions to a walk/bike roadway along Sunnyside Road for about 0.6 miles. Roughly 725 feet past the intersection of Sunnyside Road and Sunnyside Ln, the trail...
again links up with the National Grid ROW as an off-road shared use path for about 1 mile until it intersects with CR 25A (Hudson Avenue) where a major crossing with a CFPB is proposed. Another minor crossing will be necessary at Frisbee Ln. Just south of Frisbee Ln, a Trailhead is proposed on a property that is bound by the ROW, Hudson Avenue (CR 25A) and Woods Ln. Southwest of the Trailhead, another minor crossing will be necessary at New Street. Approximately 500 feet from the New Street crossing, the trail enters the Town of Stockport. (See Figure 2.3.7).

Town of Stockport

Upon entering the Town of Stockport at the Stuyvesant/Stockport town line, the trail continues along the National Grid ROW, running parallel to US Route 9, south for roughly 1.75 miles until the ROW intersects with Rossman Road where the trail transitions to a shared roadway. Where Rossman Road intersects with CR 25, the shared roadway continues south along CR 25 for approximately 1.6 miles to the intersection of Urban Road. Along Urban Road, the trail transitions to a walk/bike roadway for roughly 900 feet. At the intersection of Urban Road and Loomworks Road, the trail links back in with the National Grid ROW and transitions to a shared use path, traveling south for approximately 1.6 miles until it intersects with CR 20 (Atlantic Avenue). Approximately 500 feet to the east of the intersection of CR 20 a Trailhead is proposed on Park Place in Stockport Park, in the hamlet of Stottville. After crossing CR 20, the trail continues along the ROW as a shared use path until it reaches the Stockport/Greenport town line. (See Figure 2.3.8).

Town of Greenport

Following the National Grid ROW, the shared-use path enters the Town of Greenport at the Stockport/Greenport town line, running roughly parallel to the Claverack Creek. The trail continues off road for approximately ¾ of a mile until it intersects with Pulcher Avenue. South of the intersection with Pulcher Avenue, the trail continues for about 0.5 miles until it will cross Kipps Road, followed by another minor crossing at Kipp Ln. At Kipp Ln, the off-road trail will end, and the trail turns to the west to the interaction of US Route 9 where it transitions to a Side Path along the east side US Route 9 (Fairview Avenue.) For roughly 700 feet to the intersection of Livingston Parkway where the trail will terminate. Trail users will have the ability to follow Livingston Parkway west to Joslen Blvd. A short stretch of Joslen Blvd leads to Harry Howard Avenue, into the City of Hudson. (See Figure 2.3.9).

2.4 Potential Construction Activities and Phasing Plan

The project may be let as two or more primary construction contracts, covering different sections of the trail. All National Grid required asset relocations including any pole or guy wire changes will be performed by National Grid in advance of letting of the primary construction contracts.
Figure 2.3.1
City of Rensselaer - Rensselaer County AHET Alignment

Legend
- Shared Use Path
- Sidewalk
- Existing Sidewalk
- Bike Lanes
- Existing Bike Lanes
- Bike-Bike Roadway
- 3-Lane Roadway
- NG ROW (Not Used)
- Connection to Future EST
- Proposed Mini-Roundabout
- HAWK (High-Intensity Activated Crosswalk) Signal Crossing
- CFPB (Circular Flashing Pedestrian Beacon) Crossing
- Raised Marked, Signed, & Yield Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Signal Improvements
- Proposed Bridge
- Large Washout
- Trailhead
- Streams
- Village Boundary
- Town Boundary
- County Boundary

City of Rensselaer Trail Statistics
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Figure 2.3.2
Town of East Greenbush - Rensselaer County AHET Alignment

Legend
- Shared Use Path
- Sidewalk
- Existing Sidewalk
- Bike Lanes
- Existing Bike Lanes
- Walk/Bike Roadway
- Existing Bike Lanes
- Shared Roadway
- Not Used
- Connection to Future EST
- Proposed Mini Roundabout
- HIIAC (High-Intensity Activated Crosswalk) Signal Crossing
- CPRB (Circular Flashing Pedestrian Beacon) Crossing
- Raised Marked, Signed, & Yield Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Signal Improvements

Town of East Greenbush Trail Statistics

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March 9, 2018
Figure 2.3.3
Town of Schodack - Rensselaer County AHET Alignment

Town of Schodack Trail Statistics

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Additional AHET Portion
Town of Schodack (0.40 miles)

East Hill Road

Legend
- Shared Use Path
- Sidewalk
- Existing Sidewalk
- Bike Lanes
- Existing Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Tag Bolt (not land)
- Connection tofuture EST
- Signal Improvements
- Proposed Mini Roundabout
- HAWK (High-Intensity Activated Crosswalk) Signal Crossing
- CFPB (Circular Flashing Pedestrian Beacon) Crossing
- Raised Crosswalk
- Marked, Signed & Yield Crosswalk

March 9, 2018
Figure 2.3.4
Town & Village of Nassau - Rensselaer County AHET Alignment

Village of Nassau Trail Statistics
- Shared Use Path Mileage: 0.84 miles
- Walk/Bike Roadway Mileage: 0.14 miles
- Total Trail Mileage: 0.98 miles

Town of Nassau Trail Statistics
- Shared Use Path Mileage: 1.75 miles
- Shared Roadway Mileage: 0.06 miles
- Total Trail Mileage: 1.81 miles

Legend:
- Shared Use Path
- Sidewalk
- Existing Sidewalk
- Bikeway
- Existing Bikeway
- Existing Bike Lanes
- Walk/Bike Roadway
- Existing Bike Lanes
- Bike Lanes
- Shared Roadway
- Bike Lanes (not used)
- Connection to Future GST
- Proposed Mini Roundabout
- HRAK: High-Intensity Activated Crosswalk Signal Crossing
- CFPB: Circular Flashing Pedestrian Beacon Crossing
- Raised Marked, Signed, & Yield Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Signal Improvements
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

NYSTA Share

March 9, 2018
Town of Chatham Trail Statistics

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Figure 2.3.5
Town of Chatham - Columbia County AHET Alignment

Legend:
- Shared Use Path
- Sidewalk
- Existing Sidewalk
- Bike Lane
- Existing Bike Lane
- Walk/Bike roadway
- Shared Roadway
- Existing Shared Roadway
- NG ROW (Not Used)
- Connection to Future EST
- Proposed Mini Roundabout
- HAWK (High-Intensity Activated Crosswalk) Signal Crossing
- CFPB (Circular Flashing Pedestrian Beacon) Crossing
- Raised Marked, Signed, & Yield Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Signal Improvements
- Proposed Bridge
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

March 9, 2018
Town of Kinderhook Trail Statistics
- Shared Use Path Mileage: 2.45 miles
- Total Trail Mileage: 2.45 miles

Village of Valatie Trail Statistics
- Shared Use Path Mileage: 1.33 miles
- Total Trail Mileage: 1.33 miles

Village of Kinderhook Trail Statistics
- Shared Use Path Mileage: 1.52 miles
- Total Trail Mileage: 1.52 miles

Village of Valatie Trail Statistics
- Shared Use Path Mileage: 1.13 miles
- Total Trail Mileage: 1.13 miles

Figure 2.3.6
Town of Kinderhook, Villages of Valatie & Kinderhook - Columbia County AHET Alignment
### Town of Stuyvesant Trail Statistics

<table>
<thead>
<tr>
<th>Mileage Type</th>
<th>Mileage</th>
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</thead>
<tbody>
<tr>
<td>Shared Use Path Mileage</td>
<td>1.78</td>
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<tr>
<td>Side Path Mileage</td>
<td>0.32</td>
</tr>
<tr>
<td>Walk/Bike Roadway Mileage</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Total Trail Mileage</strong></td>
<td><strong>2.71</strong></td>
</tr>
</tbody>
</table>

**Figure 2.3.7**

**Town of Stuyvesant - Columbia County AHET Alignment**

Legend:
- **Shared Use Path**
- **Sidewalk**
- **Existing Sidewalk**
- **Bike Lanes**
- **Existing Bike Lanes**
- **Walk/Bike Roadway**
- **Shared Roadway**
- **NG ROW (Not Used)**
- **Connection to Future EST**
- **Proposed Bridge**
- **Lodge Roadbed**
- **Highway**
- **Stream**
- **Village Boundary**
- **Town Boundary**
- **County Boundary**

*Figure 2.3.7 Town of Stuyvesant - Columbia County AHET Alignment*

*March 9, 2018*
Figure 2.3.8
Town of Stockport - Columbia County AHET Alignment

Legend
- Shared Use Path
- Sidewalk
- Bike Lanes
- Existing Bike Lanes
- Shared Roadway
- NG ROW (Not Used)
- Proposed Mini Roundabout
- HAWK High-Intensity Activated Crosswalk Signal Crossing
- CF PB (Circular Flashing Pedestrian Beacon) Crossing
- Raised Marked, Signed, & Yield Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Connection to Future EST
- Signal Improvements
- Proposed Bridge
- Large Washout
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary

Town of Stockport Trail Statistics

<table>
<thead>
<tr>
<th>Mileage</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Shared Use Path Mileage</td>
<td>3.82</td>
</tr>
<tr>
<td>Walk/Bike Roadway Mileage</td>
<td>0.18</td>
</tr>
<tr>
<td>Shared Roadway Mileage</td>
<td>1.66</td>
</tr>
<tr>
<td>Total Trail Mileage</td>
<td>5.66</td>
</tr>
</tbody>
</table>
Town of Greenport Trail Statistics

- Shared Use Path Mileage: 1.55 miles
- Side Path Mileage: 0.12 miles
- Total Trail Mileage: 1.67 miles

Figure 2.3.9
Town of Greenport - Columbia County AHET Alignment

Legend:
- Shared Use Path
- Sidepath
- Sidewalk
- Existing Sidewalk
- Bike Lanes
- Existing Bike Lanes
- Shared Roadway
- Bike Path
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary

March 9, 2018
3.0 PUBLIC INVOLVEMENT AND OUTREACH

3.1 Public Workshops

Public involvement has been critical to developing and refining the preferred route for the AHET trail. In August 2017, the Hudson River Valley Greenway (“Hudson Greenway” or “HRVG”) initiated the public engagement process with two public meetings, one at Columbia High School (August 8th) and another at Ichabod Crane High School (August 10th). The overall purpose of these initial meetings was to review the Albany-Hudson Electric Trail Draft Concept Plan with the public, answer questions and receive initial feedback about the trail project. At these meetings, Hudson Greenway staff provided an overview presentation about the AHET trail project. (See Figure 3.1.1). The full presentation is included in Appendix 3.1. Following the presentation, the AHET design team representatives fielded questions and were available for individual conversations during an open house. Additionally, exhibits showing the proposed alignment were available for public viewing during this time. (See Figure 3.3.2). Attendees were also invited to submit comments regarding the AHET on post-it notes, as shown in Figure 3.1.3.
3.2 Project Website and Additional Communications

Communications for the AHET concept plan were relayed to the public via several avenues to reach as many people as possible, including a website, emailing of updates, snail mailing a flyer, and creation of a Facebook page. Details for each of these are presented in the following sections.

3.2.1 Website

A designated website was developed at http://www.ahettrail.org to share AHET project information and documents with the public and as a venue to announce public meetings, post status reports and to relay another relevant project information. A screenshot of the website page is shown below in Figure 3.2.1
3.0. Public Involvement & Outreach

Comprehensive information about the project is regularly updated on the website, including detailed route maps, the electric trolley history, notices of upcoming meetings, trail benefits, a “submit questions and comments” function which allows residents and community members to submit comments and concerns via email regarding the AHET project. The website also includes a Documents Section and FAQs Section. The website Documents Section includes the Final Concept Plan and its appendices (provided in Appendix 3.2), the Draft Concept Plan, the electronic project updates (to be discussed further below in Section 3.2.3), the Empire State Trail Design Guide, and the EIS Scoping document for AHET.

The website section of Frequently Asked Questions (FAQs) was developed specifically to address common questions and concerns voiced by the public. The FAQs are grouped by topic on the website including: Staying informed, Trail route and design, Adjacent landowners, Trail use and rules, and Municipal responsibility. Each topic has relevant listed question(s), with answers to the questions listed below the topic title. A screenshot of the FAQs section of the website is shown below in Figure 3.2.1.1. Note this screenshot does not include all of the FAQ topics included on the website.
3.0. Public Involvement & Outreach

FREQUENTLY ASKED QUESTIONS

On August 27th, the Hudson Greenway issued a Draft Concept Plan for the AHET project, and held initial public meetings on August 8th and 10th that were attended by more than 550 people. The Greenway received a number of comments at the public meetings, and is accepting written comments via the comment form below.

Responses to some of the most frequently asked questions at the public meetings are provided below. This is an initial review of comments to provide timely response to several key questions. This fall, the Greenway will release a comprehensive, more detailed document that compiles all comments received from the public, and provides responses to all questions.

Stay Informed

- How can I stay informed and involved during the AHET planning process? How do I submit comments, concerns, or questions about the project?

Trail Route and Design

- I support the Trail, but note that some sections will follow local roadways. Why can’t the entire trail be off-road?
- The AHET Trail crosses a number of public roads. What will be done to assure the safety of bicyclists and pedestrians at road crossings?
- What is the Empire State Trail Design Guide?

Adjacent Landowners

- I am an adjacent property owner to the trail route and have concerns about potential impacts to my property. Who can I speak to?
- Will having the trail adjacent to property lower my property value?
- What is the liability of homeowner(s) whose property is adjacent to the trail?
- What steps will be taken to prevent trail users from entering adjacent private property? Will fencing be installed to ensure my property’s privacy and security?

Figure 3.2.1.2. Screenshot of the Frequently Asked Questions (FAQs) on the AHET website

The complete list of FAQ topics, questions, and answers included on the AHET website are:

Staying Informed

Q. How can I stay informed and involved during the AHET planning process? How do I submit comments, concerns, or questions about the project?

A. The Hudson Greenway is undertaking a variety of public outreach efforts, as the trail siting and construction planning is developed over the next 12 months:

- Updates will be regularly posted on this website.
- Additional public meetings will be held over the next six months – information about all future meetings will be posted on the website and emailed to those that have provided email addresses.
- Greenway staff are available to present information about the AHET Trail at local forums upon request.
- Comments and questions should be submitted here.

Trail Route and Design

Q. I support the Trail, but note that some sections will follow local roadways. Why can’t the entire trail be off-road?

A. The Greenway’s goal is to develop the AHET as an off-road trail wherever possible. However, the historic trail corridor is broken in certain places (for example short sections of public roadway have been built on the old rail line in some places, the ROW is cut twice by Interstate I-90, and buildings have been constructed on the old ROW in the cities of Rensselaer and Hudson). In those places, the only available alternative is to route the trail along local roadways.
Q. The AHET Trail crosses a number of public roads. What will be done to assure the safety of bicyclists and pedestrians at road crossings?

A. The Empire State Trail, in concert with the NYS Department of Transportation, has developed a statewide Design Guide (posted in the Documents section) that captures the most current techniques and approaches for roadway crossings. Each road crossing along the AHET Trail will receive the appropriate treatment to provide pedestrian and bicycle safety, based on vehicle traffic speeds and volumes and the specific crossing configuration.

A. What is the Empire State Trail Design Guide?

A. The Hudson Greenway compiled the Empire State Trail Design Guide (posted in the documents section) to provide a comprehensive summary of the current guidelines for developing off-road “shared use paths” and on-road bicycle and pedestrian routes. The Design Guide builds upon bicycle and pedestrian guidelines issued by the American Association for Highway and Transportation Officials (AASHTO), which is the national standard for multi-use trail facilities.

Adjacent Landowners

Q. I am an adjacent property owner to the trail route and have concerns about potential impacts to my property. Who can I speak to?

A. Greenway staff are happy to respond to questions from adjacent landowners. The best way for property owners to contact the Greenway is through the “submit comments” section on the www.AHETtrail.org website. Greenway staff review each submitted comment and will send individual responses to specific questions. Greenway staff are also available to meet on-site with adjacent landowners where appropriate to share information and discuss landowner issues (adjacent landowners should include their contact information when submitting comments on the website).

Q. Will having the trail adjacent to property lower my property value?

A. Many studies, including research conducted by Realtors associations, have found that multi-use trails are an amenity that increases property values and improve the quality of life for nearby residents.

Q. What is the liability of homeowner’s whose property is adjacent to the trail?

A. Rules will be posted informing trail users to stay on the trail and not enter adjacent property. Trail design features, such as allowing vegetation to grow up establishing a natural boundary, and installing signage or fencing in specific locations where warranted, will reinforce trail behavior. New York State, like most states, has a Recreational Use Statute (General Obligation Law Section 9-103) that protects property owners from liability from hikers, bicyclists, and other trail activities on private property. The general experience of rail-trails across New York State is that users stay on the trails and respect adjacent private property.

Q. What steps will be taken to prevent trail users from entering adjacent private property? Will fencing be installed to ensure my property’s privacy and security?

A. Based on experiences on other rail-trails, there typically are not significant problems with people leaving the trail and entering private property. Trail users understand that adjacent land is private property, not to be entered without permission. The AHET Trail will include a number of features to reinforce the requirement that users respect private property. Rules emphasizing people are not allowed to enter adjacent property will be posted at trailheads. The trail will be 10-12 feet wide, whereas the National Grid ranges in width from 75 to 150 feet, providing a healthy buffer to private property (and natural vegetation growth will deter users from leaving the trail). Generally speaking, security or privacy fencing will not be installed along the trail corridor. However, in special circumstances the Greenway will consider installing additional signage, fencing, or vegetative plantings where warranted.

Trail Uses and Rules

Q. I currently ride my horse along the right of way. Why does the Greenway propose to prohibit equestrian use? Can this issue be reconsidered?
A. The HRVG has entered into a License Agreement with National Grid authorizing creation of the AHET Trail. The agreement limits public recreational use of the trail to pedestrian and bicycle use only, including ADA accessibility. The agreement explicitly prohibits public equestrian use of the AHET Trail, and also prohibits snowmobiles and other motorized recreational uses.

The HRVG and National Grid have reviewed public comments requesting that horses be allowed on the AHET Trail. We have jointly concluded that equestrian use is not appropriate due to safety concerns. The AHET will be a unique recreational trail due to its close proximity to electrical facilities including utility poles, guy wires, and related infrastructure. These are present along the trail for the entire length of the National Grid corridor to support a 34,500V transmission line, plus a second parallel electrical distribution line located along the majority of the ROW that provides local electrical service to National Grid customers. In many places, the distance between the edge of the trail to utility poles will be as little as two feet, and the distance to guy wires will be as little as five feet. In rural areas, the trail will be ten feet wide, with some sections reduced to eight feet wide to provide required buffers to utility poles, or to accommodate safety fencing that will be installed linearly along the trail where drop-offs present safety hazards.

Given the AHET Trail’s proximity to suburban areas, villages, and hamlets, the HRVG anticipates significant use of the trail by pedestrian and bicycle users. The HRVG and National Grid have concluded that, due to anticipated high levels of trail use, close proximity to poles and guy wires, and constrained trail width in some locations, allowing horses to share the trail with pedestrians and bicyclists would create unacceptable safety concerns and potential conflicts between user groups.

The HRVG explored the option of creating a separate bridle path along the National Grid ROW, paralleling the bicycle/pedestrian trail – but concluded this option is not feasible due to the existence of utility poles and guy wires, along with physical constraints such as drop-offs and wetlands adjacent to the historic trolley bed. The HRVG also researched equestrian use on other rail-trails in the Hudson Valley and the Capital District. Generally speaking, horses are not allowed (with limited exceptions).

Note: Where established horse trails cross the AHET corridor and have the consent of the adjacent landowner, horses will continue to be allowed to cross perpendicularly across the AHET Trail.

Q. Unauthorized ATV use is a significant problem today on the utility ROW. Will development of the AHET Trail make the problem worse? How will the prohibition of ATVs be enforced on the trail?

A. The Greenway is aware that illegal use by ATVs and dirt bikes is currently a problem on some sections of the corridor. Based on experience with other rail trails, we anticipate construction of the trail will displace (and not increase) ATV activity. Signage stating that motor vehicles are prohibited will be conspicuously posted – most people will comply, reinforced by social interactions with bicyclists and pedestrians. Law enforcement by state and local agencies will be available if needed to address non-compliance. There are hundreds of miles of rail-trails in New York State – ATV use is generally not a significant problem.

Q. Concern has been raised regarding the possibility of an increase in crimes (i.e., burglaries, assaults, property destruction) near the proposed AHET trail. Have any studies been conducted in heavily populated neighborhoods similar to the neighborhoods to examine this issue?

A. There are a large number of rail-trails and canalway trails in New York State. The universal experience is that these types of trails quickly become cherished community assets. We are not aware of any increase in crime associated with trails, but the Greenway will further research whether any studies exist.

Q. The Empire Trail Concept Plan refers to rules that will be posted along the trail to seek compliance and facilitate enforcement. Who makes these rules and who will enforce them?

A. The Greenway will develop written trail use rules that will be posted along the trail and will seek the local municipalities’ input into the rules. In practice, trail use rules are straightforward (no motorized vehicles, do not enter private property adjacent to the trail, the trail is open dawn to dusk, etc.). The Greenway anticipates adopting a single
set of rules for the entire trail (we would not support developing separate rules for the individual towns and villages the trail passes through). County, town, and city law enforcement agencies will be the primary response agencies, with support from New York State agencies if needed. Rail-trails typically do not generate significant law enforcement presence.

**Municipal Responsibility**

Q. How will the trail be maintained? Our town/county/village may not have the resources to pay for maintenance of the trail – will my municipality need to increase property taxes to cover maintenance costs?

A. The AHET Trail will be operated and maintained by a collaborative partnership including the Hudson River Valley Greenway, local county, town and village governments, and interested trail groups and volunteers. The Greenway/New York State retains responsibility for long-term “capital maintenance” such as when asphalt and stone dust needs to be resurfaced or safety fencing needs to be replaced (typically once every 15+ years). However, the Greenway does not have staff to conduct regular maintenance, such as mowing a narrow strip of grass along the trail, which will need to be done regularly during the growing season. The Greenway is initiating conversations with local governments regarding trail maintenance agreements. Fortunately, regular maintenance needs are modest, and the fact that the trail crosses through a large number of towns and villages minimizes the impact on any single municipality.

Q. How will law enforcement and emergency services (EMS) be provided on the trail? Will this be a new cost for local governments?

A. Although state law enforcement agencies will be available to provide strategic assistance, local police and EMS agencies will be the primary responders. Typically, the level of police and EMS responses on rail-trails is low. The Greenway is compiling information on emergency incidents on other rail-trails in NYS, to share with involved agencies along the AHET route.

Q. Do local municipalities with on-road portions have to approve the detailed plan? What is required?

A. The Hudson Greenway is approaching development of the Albany-Hudson Electric Trail as a partnership with the involved county, town, city, and village local governments. We are committed to planning and building a trail that has the support of involved local elected officials.

The Greenway will request the local municipality’s concurrence for any improvements proposed for roads and property under the municipality’s jurisdiction. Improvements will be designed for each specific road segment and crossing, and may include installation of signage, installation of pavement markings, and/or improvements to roadway shoulders or sidewalks. The Greenway will formally request municipality concurrence after preliminary engineering designs have been developed in the spring of 2018, which will provide the municipality a clear description of the specific road treatments.

A summary of the public feedback received through this portal is presented in Section 3.4.

### 3.2.2 Hardcopy Flyer

In September, the HRVG mailed a printed AHET trail update flyer to every individual and business owning land adjacent to the AHET trail route – comprising over 1,200 property owners – to make sure all interested parties are aware of the project and the proposed alignment. This flyer can be found in below in Figure 3.2.2.1 and in Appendix 3.2.
3.0. Public Involvement & Outreach

The AHET Trail
The Albany Hudson Electric Trail (AHET) will be a shared-use bicycling and pedestrian path along the 36-mile Albany Hudson Electric Trolley corridor, which serves presently as a National Grid transmission corridor from Hudson, NY to Poughkeepsie, NY. The trail was set to be completed in 2020.

AHET Trail Benefits
The Albany Hudson Electric Trail will bring a number of benefits to surrounding communities:
- Improved health and well being
- Increased transportation options
- Recreational benefits related to recreation-based tourism
- Outdoor learning opportunities for children and adults
- Safe recreation opportunities for all
- Opportunities to form a sense of community

Empire State Trail Initiative
The AHET is an important part of the Empire State Trail, providing a key link between the Capital Region and the Mid-Hudson Valley.

The Empire State Trail, when completed in 2020, will create a 750-mile non-motorized and pedestrian path from New York City to Canada and from Albany to Utica.

3.2.3 Email and Electronic Flyers

At each public and stakeholder meeting, sign-in sheets were distributed, and email addresses were collected. These email addresses are stored in an “all-contacts” data list, which is continuously updated. The all-contacts list was used for two electronic updates mailed to the public, one in fall 2017 and one in winter 2018.

3.3 Stakeholder Meetings

During the four-month period following the initial public information meetings, the HRVG participated in more than twelve public stakeholder meetings in communities spanning the 36-mile trail route. The meetings were hosted by a variety of entities, including Town Boards, Village Boards, and interested civic groups. All meetings featured short presentations about the trail concept, followed by interactive question and answer sessions with map exhibits on display. In total, more than 750 people attended the various public meetings regarding the Draft AHET Concept Plan, providing a wide spectrum of comments, questions, concerns, and statements.

Individual stakeholders (typically owners of property adjacent to the National Grid Right-of-Way) were offered site visits from the design team. During the visits, a design team representative brought a site map to the stakeholder property, provided site-specific information, and responded to concerns regarding the proposed trail route. The team visited over 55 properties. Appointments were arranged at the convenience of the stakeholder (e.g., mornings, evenings, weekends) and recorded in the database. AHET representatives from GPI or HRVG met with the stakeholders, listened to their concerns, walked the property, and discussed the site maps. In most cases, photos were taken to document local conditions. Feedback from these visits was compiled by GPI and electronically sorted and stored, along with site photos.
in folders specific to each stakeholder location. This information, along with relevant deed information, will be readily accessible and considered as the AHET team develops detailed engineering plans for the trail.

3.4 Public Comment Database and Comment Summary

In addition to oral comments at public meetings, the HRVG received more than 250 written public comments during the public outreach process. Comments regarding the Draft AHET Concept Plan were submitted via many venues, including email submissions to the AHET trail website, emailed comments sent to AHET project staff, phone calls to staff members, emailed comments to the AHET designated email address, and summaries of comments left on an AHET call-in number (518 898-9595).

The database of comments was summarized and presented in the Public Comment Summary. This summary was posted to the AHET website in December 2017 as an Appendix to the Final Concept Plan. The detailed Public Comment Summary divided the public comments into 18 groups of concern. These groups of concern included:

#1: STATEMENTS IN SUPPORT.
#2: STATEMENTS OF CONCERN AND OPPOSITION.
#3: CONCERNS FROM ADJACENT LANDOWNERS.
#4: CONCERNS ABOUT TRESPASS ON PRIVATE PROPERTY.
#5: PRIVACY ISSUES.
#6: PROPERTY VALUES.
#7: LANDOWNER LIABILITY.
#8: ILLEGAL MOTORIZED VEHICLES.
#9: AHET TRAIL CONSTRUCTION COST.
#10: LOCAL GOVERNMENT RESPONSIBILITY AND COST OF MAINTENANCE.
#11: ALTERNATE ROUTE SUGGESTIONS.
#12: MAJOR ROAD CROSSINGS.
#13: TRAILHEAD PARKING.
#14: RESTROOMS AND AMENITIES.
#15: EQUESTRIAN USE.
#16: TRAIL USE RULES.
#17: IMPACTS ON AGRICULTURE.
#18: NOTICE OF PUBLIC MEETINGS.

Details for each concern, in addition to the HRVG response to each concern, are provided below:

#1: STATEMENTS IN SUPPORT

Many local officials, private citizens, adjacent landowners, private businesses, organized trail groups, land trust organizations, historians, and others expressed support for creation of the AHET Trail. A number of people and organizations asked how they can help support creation of the trail, assist in future trail maintenance, and participate in historical and environmental education programming once the trail is open.
HRVG Response: The HRVG appreciates receiving support for the AHET Trail project, acknowledging the Trail’s future benefits including healthy outdoor recreation, community vitality, safe bicycle and walking facilities, tourism-related economic development, and civic engagement. The HRVG welcomes future engagement and support for trail maintenance and programming from friends’ groups, bicycle and hiking organizations, land trusts, fraternal and service organizations, youth organizations including Boy Scouts and Girl Scouts, historic sites and historical societies, and other entities.

#2: STATEMENTS OF CONCERN AND OPPOSITION

A number of local officials, adjacent landowners, and private citizens expressed concerns, and in some cases opposition, to development of the AHET Trail.

HRVG Response: HRVG acknowledges that a number of adjacent landowners have questions and concerns about the AHET Trail, including some outright opposition. Such criticism is common as virtually all proposals to create new rail-trails and canalway trails generate questions and concerns from some adjoining landowners. Fortunately, the experience of hundreds of miles of existing rail-trails across New York State demonstrates that commonly voiced concerns—including trespass, crime, vandalism, litter, and illegal ATV and snowmobile use—do not materialize. To the contrary, rail-trails and canalway trails become cherished community assets, enhancing quality of life and becoming the focus of community vitality and pride. The HRVG has carefully listened to questions and concerns voiced during the public engagement process and has made modifications to the AHET Trail route where appropriate. We remain committed to continuing the dialogue with adjoining landowners and interested citizens, as the HRVG completes detailed engineering designs, environmental review, and construction of the AHET Trail. Specific categories of concerns are identified in the comments below, along with HRVG’s responses.

#3: CONCERNS FROM ADJACENT LANDOWNERS

The largest numbers of comments expressing concern or opposition to the AHET Trail were received from people who own property adjacent to the AHET Trail route. Adjacent land owners often asked for information on where the proposed trail would be located, if the trail would affect access to their property, and how the trail would impact current activities on their property. In addition, property owners raised concerns about safety and security, snowmobile and ATV use, liability, property values, and parking by trail users—comments which are addressed separately in this document.

HRVG Response: In many instances, HRVG project staff were able to directly respond at public meetings to questions and concerns raised by adjacent landowners. In addition, HRVG staff offered to conduct site visits with individual property owners, to review site-specific concerns, share information, and record and discuss landowner issues. The project team visited nearly 50 individual properties between September and November 2017, in addition to participating in 12 local and neighborhood meetings. The substance of each adjacent landowner meeting was unique to the circumstances of each property, but generally speaking the AHET Trail project staff were able to provide detailed information on the proposed location of the trail and discuss potential trail design options to mitigate adjoining owners’ concerns.

#4: CONCERNS ABOUT TRESPASS ON PRIVATE PROPERTY

A number of people expressed concern that trail users will trespass onto adjoining private property. Concerned adjoining owners raised security concerns such as personal safety, crime, theft, vandalism, litter, and dog waste, and often asked how trail users will be prevented from entering private land.

HRVG Response: Questions about trespass and associated security concerns are commonly-raised issues with proposed rail-trails and canalway trails. The AHET Trail will include various features to reinforce the requirement that users respect private property. Rules emphasizing that people are not allowed to enter adjacent property will be posted at trailheads. The trail will be 10-12 feet wide, whereas the National Grid electrical transmission corridor generally ranges in width from 75 to 150 feet, providing a substantial buffer to private property (and natural vegetation growth will deter users from leaving the trail). In addition, there is a large body of evidence that rail-trails do not create security concerns. There
are hundreds of miles of rail-trails and canalway trails in New York State. There is no documented problem of trails creating crime or personal security issues. Litter and dog waste is not a pervasive problem. Nationally, there are thousands of miles of rail-trails across the United States. National studies have documented that there are not persistent problems with bicyclists and pedestrians leaving trails and entering adjacent private property.\(^5\) Trail users understand that adjacent land is private property, not to be entered without permission.

**#5: PRIVACY ISSUES**

Some adjoining landowners believe development of AHET Trail will negatively impact their privacy, particularly where the trail corridor is adjacent to residential backyards.

HRVG Response: The AHET Trail is being developed along National Grid’s electrical transmission corridor, which ranges from 75 to 150 feet in width. Because the trail will be 10 to 12 feet wide, the trail design will include a significant buffer between the trail surface and adjoining properties, which can be allowed to naturally create a vegetated buffer of tall grass, shrubs, and trees. Generally speaking, HRVG does not intend to install security or privacy fencing along the trail corridor, with the exception of safety fencing installed where there are drop-offs (typically exceeding four feet) parallel to the trail. However, in special circumstances the HRVG will consider installing additional signage, fencing, or vegetative plantings where warranted to mitigate privacy concerns of adjoining landowners.

**#6: PROPERTY VALUES**

Some adjoining landowners expressed concern that having the trail adjacent to or near to their property will lower property values. Conversely, several people expressed support, citing studies that trails increase adjacent property values.

HRVG Response: The HRVG is not aware of any studies in New York State analyzing the impact of specific rail-trails and canalway trails on adjacent property owners. However, detailed studies in other parts of the country have found that multi-use trails are an amenity that increase property values and improve the quality of life for nearby residents. For example, in suburban New Castle County, Delaware, homes within 50 yards of bike paths on average experienced a four percent increase in property value.\(^6\) In southwestern Ohio, the Miami Scenic Trail was associated with higher property values in urban, suburban and rural settings.\(^7\)

**#7: LANDOWNER LIABILITY**

Some adjoining landowners fear they will be subject to additional liability in the event trail users trespass on their private property and engage in an activity leading to personal injury.

HRVG Response: The HRVG will maintain insurance for any liability resulting from the public’s use of the AHET Trail. Generally speaking, the HRVG’s liability insurance covers the actual trail corridor (not adjacent properties). Rules will be posted informing trail users to stay on the trail and not enter adjacent property. Trail design features, such as allowing vegetation to grow up establishing a natural boundary and installing signage or fencing in specific locations where warranted, will reinforce proper trail behavior. New York State has enacted a Recreational Use Statute (General Obligation Law Section 9-103) stating that private landowners do not have “duty of care” to provide for the safety of hikers, bicyclists, and other trail activities on private property. The general experience of rail-trails across New York State

\(^5\) “Rail-Trails and Safe Communities: The Experience on 372 Trails” Tammy Tracy and Hugh Morris, Rails-to-Trails Conservancy, 1998.

\(^6\) “Property Values/Desirability Effects of Bike Paths Adjacent to Residential Areas” David P. Racca and Amardeep Khanju. Center for Applied Demography and Research at the University of Delaware, November 2006.

http://www.americantrails.org/resources/economics/littlemiamipropvalue.html
is that users stay on the trails and respect adjacent private property, and that liability concerns do not materialize on adjacent private property.

#8: ILLEGAL MOTORIZED VEHICLES

A number of comments expressed concern that development of the AHET Trail will generate continued or increased illegal snowmobile and/or ATV use on the National Grid Right of Way (ROW). People were interested to know how the prohibition of snowmobiles and ATVs be enforced on the trail.

HRVG Response: HRVG is aware that illegal use by snowmobiles, ATVs, and dirt bikes is currently a problem on some sections of the corridor. Based on experience with other rail-trails and canalway trails, we anticipate construction of the trail will displace (and not increase) snowmobile and ATV activity. Signage stating that motor vehicles are prohibited will be prominently posted along the trail corridor. Most people will comply. For the few that don’t, illegal snowmobile and ATV use is inhibited by social interactions with bicyclists and pedestrians, forcing illegal motorized users to find other places to go. If there are discrete locations with persistent illegal motorized activity, state and local law enforcement agencies will be asked to mount targeted enforcement actions. In a few specific locations along the AHET Trail, such as where new bridges are installed, consideration will be given to installing specially engineered gates and bollards during winter months to preclude snowmobile access. However, gates are effective in preventing snowmobile use only in very limited circumstances, at choke points where it is impossible to go around them. As experienced at hundreds of miles of rail-trails in New York State, the combination of signage, social interactions, and occasional targeted enforcement measures is shown to be effective at displacing ATVs and snowmobiles. The HRVG is confident that development of the AHET Trail will reduce the level of illegal motorized use currently occurring on the National Grid ROW.

#9: AHET TRAIL CONSTRUCTION COST

Several people commented that they believe the $35-$45 million budget for constructing the AHET Trail is not a priority use of state funding. Conversely, others commented they are pleased to see this level of investment of New York State funds in their local community.

HRVG Response: Funding for the AHET Trail is being provided from a $200 million state appropriation enacted in the 2017-18 NYS Budget, for creation of the Empire State Trail, a 750-mile bicycle and pedestrian trail that will connect communities across the state. The HRVG believes the AHET Trail will generate substantial benefits to local communities and the residents of New York State, including increased health and well-being, alternative transportation options, increased safety, economic development, outdoor education opportunities, environmental conservation, and community revitalization. For example, studies show that every $1 invested in recreation trails yields $3 in direct medical benefit.8

#10: LOCAL GOVERNMENT RESPONSIBILITY AND COST OF MAINTENANCE

Some local elected officials and residents are concerned that local governments cannot afford the cost of trail maintenance after the AHET Trail is constructed. Some residents are concerned that this could result in local tax increases. Concerns have also been voiced about the cost of providing law enforcement and Emergency Medical Services (EMS) services on the Trail.

HRVG Response: The AHET Trail will be operated and maintained by a collaborative partnership including the Hudson River Valley Greenway, county, town and village governments, and interested trail groups and volunteers. The HRVG is paying for the entire cost of constructing the trail, estimated at $35 to $45 million. HRVG also retains responsibility for

long-term “capital maintenance”, such as future resurfacing of asphalt and stone dust, replacement of safety fencing, inspection and maintenance of trail bridges, and repair of any washouts or culvert failures that may occur. However, the HRVG does not have staff to conduct regular trail maintenance, such as mowing a narrow 2- to 4-foot strip of grass along the sides of the trail, which will need to be done periodically during the growing season. HRVG is developing a “per-mile” cost projection for mowing and related activities (annual costs will be modest) and is currently initiating conversations with local governments regarding trail maintenance agreements. The fact that the trail crosses through eight towns and three villages minimizes the impact on any single municipality. Trail patrol and response by town and county police and law enforcement entities is anticipated to be modest (noting that unregulated, illegal motorized activities occur today on portions of the National Grid ROW). Experiences from other rail-trails and canalway trails across New York State indicates that emergencies requiring law enforcement or EMS response are infrequent.

#11: ALTERNATE ROUTE SUGGESTIONS

The HRVG received a significant number of written comments and verbal statements at public meetings suggesting alternative routes for various portions of the AHET Trail. Commenters typically proposed different routes based on their perceptions of the safety, impacts to adjacent properties, drainage and flooding, and the condition of the National Grid ROW. Specific locations where alternate routes were suggested included (arranged north to south on the AHET Trail corridor):

- Dunn Memorial Bridge and City of Rensselaer. Comments suggested that the AHET Trail be developed on a Livingston Avenue Bridge pedestrian walkway. Other comments recommended consideration of alternate on-street routes for the AHET Trail through the City of Rensselaer.
- Berkshire Drive, East Greenbush. A number of property owners on Berkshire Drive requested the project team consider an alternate on-street route, due to the narrowness of the road, prevalence of on-street parking, perceived changes to the current character of the street, and potential for impacts and unauthorized parking at a private K-8 school.
- Route 20, East Greenbush. Several comments recommended consideration for designating the AHET Trail on State Route 20, to provide trail users direct access to retail and service businesses.
- East Schodack & Nassau Lake. Comments suggested that the AHET Trail should utilize County Route 7 and/or East Hill Road (rather than the National Grid ROW) in this area. Other comments recommended avoiding Trolley Lane parallel to Nassau Lake.
- Village of Nassau. Comments were received regarding the specific route the AHET Trail should utilize through the Village, including evaluating potential impacts to several private businesses, residences, and the little league field adjacent to John Street.
- Chatham. A number of comments expressed concern that the AHET Trail should not be located on State Route 203 in the Town of Chatham, due to concerns over narrow shoulders, absence of sidewalks, and vehicle speeds. One comment recommended that the AHET Trail should pass next to the North Chatham Free Library.
- Stuyvesant. A number of people recommended that the AHET Trail utilize Smith Road, Route 9, and Sunnyside Road, to avoid the section of National Grid ROW passing directly through commercial farm operations at the large dairy farm in this area (noting the Sunnyside Road route had been proposed in a prior Kinderhook Stockport Stuyvesant (KSS) Trails study).
- Stockport. Multiple comments recommended that the AHET Trail not be located on County Route 25 in Stockport (suggesting alternate routes including State Route 9).
- Preference for Off-Road Trail. Comments were received expressing support that the AHET Trail utilize off-road alignments wherever possible, for improved safety and trail experience (in contrast to designating the trail on certain on-road locations).
3.0. Public Involvement & Outreach

- Hudson River Route. Several comments were received stating the AHET Trail should be developed on the shoreline of the Hudson River in Columbia and Rensselaer Counties (rather than on the National Grid ROW).

HRVG Response: The HRVG carefully reviewed all comments recommending consideration of alternative routes. As noted in the Final Concept Plan, the AHET Trail route has been relocated in several specific locations, reflecting detailed study by the AHET Trail design team. For the remainder of the comments, the HRVG determined that the proposed alternative AHET Trail routes were not feasible due to safety, engineering, constructability, financial, or property ownership factors.

#12: MAJOR ROAD CROSSINGS

Several comments underscored the importance of designing safe pedestrian and bicycle crossings at major road intersections, including State Route 4 in East Greenbush, Miller Road in Schodack, State Route 20 in the Village of Nassau, and the intersection of State Route 203, County Route 32, and Bunker Hill Road in North Chatham.

HRVG Response: The HRVG will assure that all locations where the AHET Trail crosses roadways meet the current state and American Association of State Highway and Transportation Officials (AASHTO) guidelines for bicycle and pedestrian safety. The Empire State Trail Design Guide (issued by the HRVG in October, 2017) provides an overview of approved crossing treatments for various types of roads. The HRVG will consult closely with the New York State Department of Transportation and county, town, and village highway officials as it designs each specific road crossing.

#13: TRAILHEAD PARKING

Various comments were submitted regarding the eight potential AHET Trail trailheads proposed for consideration in the Draft Concept Plan.

In addition, some property owners expressed concern that trail users will park on nearby public streets, potentially creating conflicts with residential owners.

HRVG Response: In response to public comment and additional study, the Final Concept Plan identifies several new designated trailhead parking areas and removes several others from further consideration. Many of the proposed trailhead parking locations are located on municipally-owned land adjacent to the AHET Trail corridor. In these instances, the HRVG will continue to work with the involved local governments to flesh out the design of parking areas, which ultimately will require approval of the municipal landowner.

#14: RESTROOMS AND AMENITIES

A number of comments requested trail amenities to increase the comfort and use of the trail. In particular, people asked whether public restrooms will be developed along the AHET Trail route, with some concern that trail users will utilize adjoining properties if there are no restrooms. Several comments recommended installing signage to promote local businesses located near the trail. One comment requested that trailside campsites be considered.

HRVG Response: The AHET Trail will include installation of parking, benches, orientation kiosks, wayfinding signage, and interpretive information at designated locations along the 36-mile route. There are no plans to construct restrooms or develop campsites on the trail and trail users will need to use existing public amenities along the route. This is common practice for trail users, as they are aware restroom facilities are not generally available on trails and will identify appropriate accommodations. The HRVG will evaluate appropriate ways to promote nearby businesses, amenities, and services through signage and a mobile website, able to utilize the GPS function on cell phones and mobile devices (physical signage will be limited, meaning the mobile website will be the primary way to promote nearby services).

#15: EQUESTRIAN USE

The Draft AHET Trail Concept Plan proposed that horses will not be allowed on the AHET Trail. HRVG received a number of written and verbal comments recommending that horses should be allowed on the AHET Trail.
HRVG Response: The HRVG has entered into a License Agreement with National Grid authorizing creation of the AHET Trail. The agreement limits public recreational use of the trail to pedestrian and bicycle use only, including ADA accessibility. The agreement explicitly prohibits public equestrian use of the AHET Trail, and also prohibits snowmobiles and other motorized recreational uses.

The HRVG and National Grid have reviewed public comments requesting that horses be allowed on the AHET Trail. We have jointly concluded that equestrian use is not appropriate due to safety concerns. The AHET will be a unique recreational trail due to its close proximity to electrical facilities including utility poles, guy wires, and related infrastructure. These are present along the trail for the entire length of the National Grid corridor to support a 34,500V transmission line, plus a second parallel electrical distribution line located along the majority of the ROW that provides local electrical service to National Grid customers. In many places, the distance between the edge of the trail to utility poles will be as little as two feet, and the distance to guy wires will be as little as five feet. In rural areas, the trail will be ten feet wide, with some sections reduced to eight feet wide to provide required buffers to utility poles, or to accommodate safety fencing that will be installed linearly along the trail where drop-offs present safety hazards.

Given the AHET Trail’s proximity to suburban areas, villages, and hamlets, the HRVG anticipates significant use of the trail by pedestrian and bicycle users. The HRVG and National Grid have concluded that, due to anticipated high levels of trail use, close proximity to poles and guy wires, and constrained trail width in some locations, allowing horses to share the trail with pedestrians and bicyclists would create unacceptable safety concerns and potential conflicts between user groups.

The HRVG explored the option of creating a separate bridle path along the National Grid ROW, paralleling the bicycle/pedestrian trail – but concluded this option is not feasible due to the existence of utility poles and guy wires, along with physical constraints such as drop-offs and wetlands adjacent to the historic trolley bed. The HRVG also researched equestrian use on other rail-trails in the Hudson Valley and the Capital District. Generally speaking, horses are not allowed (with limited exceptions).

Note: Where established horse trails cross the AHET corridor and have the consent of the adjacent landowner, horses will continue to be allowed to cross perpendicularly across the AHET Trail.

#16: TRAIL USE RULES

People asked a variety of questions regarding rules governing the public’s use of the AHET Trail.

HRVG Response: Prior to completion of the AHET Trail’s construction in 2020, New York State will adopt rules governing the off-road sections of the trail. The trail rules will be straightforward: identifying allowed activities (bicycle and pedestrian use), listing prohibited activities (no motorized vehicles), emphasizing that users must stay on the trail and not enter adjacent private property, etc. Prior to adoption, NYS will provide the trail rules in draft form to involved county, town and village elected officials for review and comment. In response to frequently asked questions about the AHET Trail rules:

- **Daylight Use.** The AHET Trail will be posted for use from dawn to dusk only. The Hudson Greenway does not intend to install lighting on off-road sections of the trail.
- **Year-Round Use.** The AHET Trail will be open year-round. During winter months, weather conditions will dictate availability for bicycling and walking, or snowshoeing and cross-country skiing. Off-road sections will not be plowed or salted.
- **Dogs.** Trail users will be allowed to walk dogs on the AHET Trail, provided that dogs must be kept under control and be kept on leash at all times, and dog owners must clean up all pet waste.
- **Private Crossings.** There are a number of locations along the 36-mile AHET Trail route where private driveways and access points cross National Grid’s fee corridor. The HRVG will not restrict adjacent landowners from utilizing designated crossings, including use of motorized vehicles, to access their property. Signage will be installed to inform trail users and landowners or non-trail users to be alert for crossing traffic.
### Signage
Signage listing key trail user rules will be posted at trailhead parking areas and major access points. Signage emphasizing that users must stay on the trail and not enter adjacent private property will be installed at selected locations, where conditions warrant. Trail rules will also be posted on the AHET public website.

### Enforcement
Experience on existing rail-trails and canalway trails across New York State is voluntary compliance with trail rules is very high. In the event of isolated instances of non-compliance, the AHET Trail rules will be enforceable by state and local police and law enforcement personnel.

### #17: IMPACTS ON AGRICULTURE
Comments were received expressing concern that development of the AHET Trail could impact commercial agricultural activities on adjoining lands, particularly in sections of Columbia County.

HRVG Response: The HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

### #18: NOTICE OF PUBLIC MEETINGS
Some individuals requested that future public meetings be more widely publicized; with some people indicating they did not know about the August public meetings until after the fact. Similarly, some people requested that public comments received by the Greenway to be made publicly available.

NOTICE OF PUBLIC MEETINGS.

HRVG Response: The August public meetings were publicized through press releases widely distributed to all local media outlets and local officials. Notice of upcoming public meetings is prominently posted on the AHET Trail public website. There All interested individuals providing email addresses have been added to an email distribution list that receives announcements of future public meetings in their area. As previously mentioned, the HRVG mailed a printed AHET Trail update flyer in October 2017 to every individual and business owning land adjacent to the AHET Trail route – comprising 1,400 property owners – to make sure all interested parties are aware of the project. The HRVG is committed to continued conversation and working with local stakeholders to ensure that community members feel heard through this process.

There has been much opportunity for public comment, and public comment opportunity will continue via:

- Upcoming public engagement opportunities, which will be advertised through the AHETtrail.org website.
- The HRVG will continue to issue and email project updates periodically throughout the project. To be added to an email distribution list, please submit a comment requesting to be added to the distribution list through the project website.
- The Draft Environmental Impact Statement (DEIS), slated to be released in March, 2018, will have a formal public comment period.
- Next spring, the HRVG will share preliminary trail engineering design documents with involved Town and Village Boards and, where appropriate, with individual adjacent landowners for review and comment.
- The HRVG will continue receiving public comment through the duration of the project, including future public meetings and comments submitted through the project website at AHETtrail.org.
4.0 ENVIRONMENTAL SETTING, POTENTIAL ENVIRONMENTAL IMPACTS & PROPOSED MITIGATION MEASURES

4.1 Land

4.1.1 Topography and Slope

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially involve a moderate impact on slopes of 15% or greater. The following section evaluates the extent of this potential impact and provides mitigation measures where necessary.

Environmental Setting

In general, the former railway bed (herein referred to as the “rail prism”), defines the topography along the off-road portion of the trail. The rail prism is generally flat on the top with varying side slopes that exceed 15% in some areas. Trail sections that utilize existing sidewalks or roadways were not analyzed as no soil disturbance is expected. NYS LIDAR data was used to generate existing contour data and identify the areas with steep slopes. (See Appendix 4.1.1. Figures 4.1.1.1 - 4.1.1.9). The proposed trail will generally be constructed along the rail prism to avoid disturbance of areas with steep slopes. There are however, certain portions of the trail that require culvert replacement or construction of bridges that may affect steep slopes. Each of these areas is discussed in detail below.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer

The City of Rensselaer hosts a trail mileage of 1.13 miles with no potential impact to steep slopes. (See Figure 4.1.1.1). The trail route in this section is along existing sidewalks and roadways so impacts to steep slopes are not expected.

Town of East Greenbush

Potential Impacts:

The Town of East Greenbush encompasses 5.35 miles of the AHET trail with approximately 2.68 miles or 43% identified as having potential impact to steep slopes. (See Figure 4.1.1.2). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted. The only area of concern for steep slope impacts is located approximately 700’ north of the trails intersection with NYS Route 49 where a washout of the trail prism has occurred. (See Figure 4.1.1.2a).

Mitigation Measures:

A new culvert will be installed, and the embankment filled in to existing grades, and rip-rap may be installed to provide slope protection on the embankments. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will

9 Sta. EG 91+00
receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure to control erosion during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Schodack

Potential Impacts:
The Town of Schodack encompasses 7.6 miles of the AHET trail with approximately 4.58 miles or 63% identified as having potential impact to steep slopes. (See Figure 4.1.1.3). The majority of the steep slope areas identified are due to the side slopes of the rail prism which are outside of the disturbance limits for this project and will not be impacted. An area of concern for steep slopes is located approximately 50’ south of the trails intersection with E Hill Rd$^{10}$ where a Bridge #1 over Moordener Kill will be constructed. (.See Figure 4.1.1.3a).

Mitigation Measures:
Abutments for the new bridge will be constructed behind existing abutments and include rip-rap slope protection on the embankments. There is also a section of trail that runs parallel to I-90 that will be paved asphalt to minimize erosion in that area. Another area that could affect steep slopes is near Brookside drive, where a culvert will be replaced in kind. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Village of Nassau

Potential Impacts:
The Village of Nassau encompasses 0.98 miles of the AHET trail with approximately 0.44 miles or 46% identified as having potential impact to steep slopes. (See Figure 4.1.1.4). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted. The two areas of concern for steep slopes are two bridge crossings, Bridge #2 located approximately 450’ south of the trails intersection with NYS Route 7$^{11}$ and Bridge #3 approximately 1400’ south of the trails intersection with Longview Ave.$^{12}$ that cross the Valatie Kill.

Mitigation Measures:
Abutments for the new bridges will be constructed on behind existing abutments and include rip-rap slope protection on the embankments. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Nassau

Potential Impacts:
The Town of Nassau encompasses 1.81 miles of the AHET trail with approximately 1.38 miles or 76% identified as having potential impact to steep slopes. (See Figure 4.1.1.4). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted. They only area

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$^{10}$ Sta. SC 166+00
$^{11}$ Sta. NA 171+00
$^{12}$ Sta. NA 119+00
of concern for steep slopes is located approximately 3500’ north of the trails intersection with Sweets Crossing Rd. where Bridge #4 will be constructed over the Valatie Kill. (See Figure 4.1.1.4c).

Mitigation Measures:
Abutments for the new bridges will be constructed behind existing abutments and include rip-rap slope protection on the embankments. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Chatham
Potential Impacts:
The Town of Chatham encompasses 3.25 miles of the AHET trail with approximately 2.03 miles or 63% identified as having potential impact to steep slopes. (See Figure 4.1.1.5). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted. The only area of concern for steep slopes is located approximately 250’south of the trails intersection with Little Lake Rd. where Bridge #5 will be constructed over Valatie Kill (See Figure 4.1.1.5a).

Mitigation Measures:
Abutments for the new bridge will be constructed behind existing abutments and include rip-rap slope protection on the embankments. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Kinderhook
Potential Impacts:
The Town of Kinderhook encompasses 2.45 miles of the AHET trail with approximately 1.25 miles or 51% identified as having potential impact to steep slopes. (See Figure 4.1.1.6). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted. The only area of concern for steep slopes is located approximately 4250’ south of the trails intersection with NYS Route 28 where Bridge #6 will be constructed over Valatie Kill. (See Figure 4.1.1.6a).

Mitigation Measures:
Abutments for the new bridge will be constructed behind existing abutments and include rip-rap slope protection on the embankments. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

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13 Sta. NA 98+00
14 Sta. CH 85+00
15 Sta. KI 218+50
Village of Valatie

Potential Impacts:
The Village of Valatie encompasses 1.49 miles with approximately 0.58 miles or 39% identified as having potential impact to steep slopes (See Figure 4.1.1.6). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted.

Mitigation Measures:
In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Village of Kinderhook

Potential Impacts:
The Village of Kinderhook encompasses 1.86 miles of the AHET trail with approximately 0.50 miles or 27% identified as having potential impact to steep slopes. (See Figure 4.1.1.6). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted.

Mitigation Measures:
In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Stuyvesant

Potential Impacts:
The Town of Stuyvesant encompasses 2.71 miles of the AHET trail with 1.28 miles or 47% identified as having potential impact to steep slopes. (See Figure 4.1.1.7). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted.

Mitigation Measures:
In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Stockport

Potential Impacts:
The Town of Stockport encompasses 5.66 miles of the AHET trail with approximately 3.22 miles or 57% identified as having potential impact to steep slopes. (See Figure 4.1.1.8). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted.
are several areas of concern for steep slope impacts. One is located approximately 450' north of the trail's intersection with Keil Road where a washout of the trail prism has occurred. (See Figure 4.1.1.8a).

Mitigation Measures:
A new culvert will be installed, the embankment filled in to existing grades, and new rip-rap slope protection will be installed on the embankments. There are also various small washouts and slope failures that will need culvert replacement in kind. In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

Town of Greenport
Potential Impacts
In the Town of Greenport, the total trail mileage is 1.67 miles with approximately 1.22 miles or 74% identified as having potential impact to steep slopes (See Figure 4.1.1.9). The majority of the steep slope areas identified are due to the side slopes of the rail prism that are outside of the disturbance limits for this project and will not be impacted. There is a small washout with four small culverts that will need culvert replacement in kind.

Mitigation Measures:
In general, erosion control and soil stabilization best management practices will be incorporated into the design to minimize the impact of soil disturbance. All slopes at a 3:1 slope or greater will receive the Erosion Control Blanket Temporary Erosion & Sediment Control measure during construction. See Section 4.1.4 for erosion and sediment control measure descriptions that will be implemented.

4.1.2 Surficial Geology and Soils
The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially result in erosion from physical disturbance or vegetation removal. The following section evaluates the extent of this potential impact and provides mitigation measures where necessary.

Environmental Setting
The identification of surficial geology and soils along the project route is useful to assess and predict the potential for erosion throughout the project. The majority of the proposed trail route will be constructed along an old railroad bed. The soils above the existing gravel-based railroad bed were imported to create the rail prism when the rail line was constructed in the late 1800s and early 1900s. As such, in some locations the soil materials that comprise the rail prism may be different than the underlying soil types represented on the map. Due to the length of the project, general soil groups and categories have been established along the trail, but it is difficult to anticipate exactly where the fill materials covering the railroad bed originated or their properties.

Below are descriptions of the various “Series” of soil groups found along the trail. However, the soils along the trail are rarely classified as a single Series. The soil classifications explained in this section are mixtures of multiple Series of soils.
that share properties/characteristics of the soils that appear in the mixture. The Series descriptions below have been obtained from the Natural Resources Conservation Service (NRCS) and has been mapped throughout the trail route. (See Appendix 4.1.2 Figure 4.1.2.1). The mapping shows the locations of each classification of soil and has been color coded and delineated to understand the approximate limits of soil properties in the region.

Methodology

There are four (4) distinct soil series groupings that are found along the trail route. They include Wayland-Teel-Hamlin, Rhinebeck-Niagara-Hudson-Dunkirk-Collamer, Windsor-Oakville-Limerick-Hoosic, and Nassau-Mardin-Bernardston. These soils were evaluated based on their Potential Erosion Factor (K) which quantifies their relative susceptibility to sheet and rill erosion. The K factor values range from 0.02 with the least erodibility to 0.64 for the most erodible. Soil properties that affect the K value include texture, organic matter content, structure, and saturated hydraulic conductivity. Generally, soils high in clay have low K values because they aren’t easily detached. Coarse soils such as sand have low K values because of low runoff. Medium textured soils like sandy loams have moderate K values because they are moderately susceptible to detachment and runoff. Soils having high silt content are the most erodible because they are easily detached and produce high rates of runoff.

Table 4.1.2.1: Erosion Susceptibility

<table>
<thead>
<tr>
<th>Erosion Factor (K)</th>
<th>Susceptibility</th>
<th>Soil Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.02-0.22</td>
<td>Slight</td>
<td>Windsor-Oakville-Limerick-Hoosic</td>
</tr>
<tr>
<td>0.23-0.43</td>
<td>Moderate</td>
<td>Nassau-Mardin-Bernardston</td>
</tr>
<tr>
<td>0.44-0.64</td>
<td>High</td>
<td>Wayland-Teel-Hamlin Rhinebeck-Niagara-Hudson-Dunkirk-Collamer</td>
</tr>
</tbody>
</table>

The Wayland-Teel-Hamlin soils are described below and are all alluvial soils located in floodplains. Based on the erosion factors of these soils they are highly susceptible to erosion depending on their composition and location. The Rhinebeck-Niagara-Hudson-Dunkirk-Collamer soils are described below and are all lacustrine sediments located on lake plains. Based on the erosion factors of these soils they are highly susceptible to erosion depending on their composition and location. The Windsor-Oakville-Limerick-Hoosic soils described below, Windsor and Oakville soils are both eolian deposits, limerick soils are alluvium and Hoosic are outwash. Based on the erosion factors for these soils they are slightly susceptible to erosion depending on their composition and location. The Nassau-Mardin-Bernardston soils, which are described below, and all formed in till. Based on the erosion factors for these soils they are moderately susceptible to erosion depending on their composition and location. The erosion susceptibility of Slightly, Moderate, or High as explained above was used to describe the soils in each municipality the trail route goes through.

Each municipality along the trail route has been analyzed and erosion & sediment control measures designed for the project. Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- New York State Standards and Specifications for Erosion and Sediment Control, NYSDEC (November 2016)
Soil Types

Bernardston Series

The Bernardston series consists of very deep, well drained soils formed in till derived mainly from dark gray phyllite, slate, or schist. The soils are moderately deep to dense till. They are nearly level to very steep soils on uplands. Saturated hydraulic conductivity is moderately high or high in the solum and low to moderately high in the substratum. Slope ranges from 0 to 50 percent.

Collamer Series

The Collamer series consists of very deep, moderately well drained soils formed in silty glacio-lacustrine sediments. They are on lake plains and till plains that have a thick mantle of lake sediments. Slope ranges from 0 to 25 percent.

Dunkirk Series

The Dunkirk series consists of very deep, well drained, silty soils on lake plains and along lower valley sides formed in glacio-lacustrine sediments. Saturated hydraulic conductivity is moderately high or high in the mineral surface and subsurface layers and moderately low to high in the subsoil and substratum. Slope ranges from 0 to 60 percent.

Hamlin Series

The Hamlin series consists of very deep, well drained soils formed in alluvium on flood plains and high bottoms. Permeability is moderate in the solum and substratum. Slope ranges from 0 to 3 percent.

Hoosic Series

The Hoosic series consists of very deep, somewhat excessively drained soils formed in glacial outwash. They are nearly level to very steep soils on outwash plains, terraces, kames, eskers, and moraines. Slope ranges from 0 to 60 percent.

Hudson Series

The Hudson series consists of very deep, moderately well drained soils formed in clayey and silty lacustrine sediments. They are nearly level through very steep soils on convex lake plains, on rolling through hilly moraines and on dissected lower valley side slopes. Saturated hydraulic conductivity is moderately high or high in the mineral surface and subsurface layers and low through moderately high in the lower part of the subsoil and substratum. Slope ranges from 0 through 60 percent.

Limerick Series

The Limerick series consists of very deep, poorly drained soils on flood plains. They formed in loamy alluvium. Saturated hydraulic conductivity is moderately high or high. Slope ranges from 0 through 3 percent.

Mardin Series

The Mardin series consists of very deep, moderately well drained soils on glaciated uplands, mostly on broad hilltops, shoulder slopes and back slopes. These soils formed in loamy till and have a dense fragipan that starts at a depth of 36 to 66 cm (14 to 26 in) below the soil surface. Slope ranges from 0 to 50 percent.

Nassau Series

The Nassau series consists of shallow, somewhat excessively drained soils formed in channery till derived from acid shale and slate. They are nearly level to very steep soils that overlie shale bedrock at depths of 25 to 50 cm. They are found on summits, shoulders, and back slopes of ridges and hills on glaciated uplands. Slope ranges from 0 to 70 percent.

Niagara Series

The Niagara series consists of very deep, somewhat poorly drained soils formed in silty glacio-lacustrine deposits. These soils are in level to slightly concave areas on lake plains and in valleys. Slope ranges from 0 to 15 percent.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Oakville Series
The Oakville series consists of very deep, excessively drained soils formed in sandy eolian deposits on dunes and beach ridges on outwash plains, lake plains, and moraines. Slope ranges from 0 to 60 percent.

Rhinebeck Series
The Rhinebeck series consists of very deep, somewhat poorly drained soils formed in clayey lacustrine sediments. They are on glacial lake plains and uplands mantled with lake sediments. Slope ranges from 0 to 15 percent.

Teel Series
The Teel series consists of very deep, moderately well drained soils on floodplains. They formed in nearly level, silty alluvial deposits. Permeability is moderate throughout the solum. Slope ranges from 0 to 3 percent.

Wayland Series
The Wayland series consists of very deep, poorly drained and very poorly drained, nearly level soils formed in recent alluvium. These soils are in low areas or slackwater areas on flood plains. Saturated hydraulic conductivity is moderately high or high in the mineral soil. Slope ranges from 0 through 3 percent.

Windsor Series
The Windsor series consists of very deep, excessively drained soils formed in sandy outwash or eolian deposits. They are nearly level through very steep soils on glaciofluvial landforms. Slope ranges from 0 through 60 percent.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer
Potential Impacts:
In the City of Rensselaer, the soil map shows the general soil grouping to be Wayland-Teel-Hamlin along the trail. The trail route within the City of Rensselaer will be along existing sidewalks or roadways. Construction activities are expecting minimal soil disturbance since sidewalk repair or replacement will be completed on existing subbase material.

Mitigation Measures:
A Stormwater Pollution Prevention Plan (SWPPP) will be developed that will outline temporary erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described in the following section will be included as part of the construction documents.

- Dust Control: Water trucks shall be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general Contractor to a degree that is acceptable to the Resident Engineer, and in compliance with the applicable state dust control requirements.
- Inlet Protection Barrier: Compost filter sock will be installed around existing catch basins to keep sediment from entering the catch basins and storm sewer system. During construction, the compost filter sock shall be replaced as necessary to ensure proper function of the structure.

Town of East Greenbush
Potential Impacts:
The soil groupings along the trail in the Town of East Greenbush include Wayland-Teel-Hamlin, Rhinebeck-Niagara-Hudson-Dunkirk-Collamer, and Windsor-Oakville-Limerick-Hoosic. There is minimal soil disturbance anticipated on the portion of the trail in the Wayland-Teel-Hamlin, where the trail will follow existing sidewalks. The trail continues along
the existing roadway to the end of Southern Avenue. At this point, a new shared use path will be constructed to Point View Drive, which will have soil disturbance to the top of the existing railbed prism. In this area, the soils are Windsor-Oakville-Limerick-Hoosic, which are slightly susceptible to erosion. Due to the level and highly compacted nature of the top of the railbed prism there is little concern for erosion in this section except in the area of the washout approximately 700’ north of the trails intersection with NYS Route 417 due to the steep slopes. The trail continues along existing roadways to Greenwood Ave, where a shared use path will begin and continue to the Town of Schodack. In this section, the trail will be constructed on the existing railbed prism and the soils are Windsor-Oakville-Limerick-Hoosic so there is minimal concern for erosion in this section.

Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- **Stabilized Construction Access:** Prior to construction, stabilized construction access will be installed at any staging area to reduce the tracking of sediment onto public roadways. Construction traffic must enter and exit the site at the stabilized construction access. The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic. The access shall be maintained in a condition which will control tracking of sediment onto public rights-of-way or streets. When necessary, the placement of additional aggregate atop the filter fabric will be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or washed onto the public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

- **Dust Control (See description in City of Rensselaer)**

- **Inlet Protection Barrier (See description in City of Rensselaer)**

- **Sediment Barrier:** Prior to the initiation of and during construction activities, an approved sediment control device (i.e. silt fence, compost filter sock, sediment dike) will be established along the down slope perimeter of areas to be disturbed as a result of the construction which lie up gradient of watercourses or adjacent properties. These barriers may extend into non-impact areas to provide adequate protection of adjacent lands. Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To facilitate effectiveness of the practice, daily inspections and inspections immediately after significant storm events will be performed by site personnel. Maintenance of the sediment barrier will be performed as needed.

- **Temporary Seeding:** Areas undergoing clearing or grading, and any areas disturbed by construction activities where work is delayed, suspended, or incomplete and will not be re-disturbed for 21 days or more shall be stabilized with temporary vegetative cover within 14 days after construction activity in that portion of the site has ceased.

- **Erosion Control Blanket:** Erosion control blankets shall be installed on all slopes exceeding 3:1. Erosion control blankets provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses associated with high runoff flow velocities associated with steep slopes.

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4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described in the following section will be included as part of the construction documents.

- Establishment of Permanent Vegetation: Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed. All areas at final grade must be seeded and mulched within 14 days after completion of the major construction activity. All seeded areas should be protected with mulch. Final site stabilization is achieved when all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

- Rock Outlet Protection: Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving watercourse or water body.

- Soil Restoration: Soil restoration is to be applied to areas whose heavy construction traffic is done and final stabilization is to begin. This is generally applied in the cleanup, site restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate ground cover to maintain the soil structure. Soil restoration measures should be applied over and adjacent to any runoff reduction practices.

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

Town of Schodack

Potential Impacts:

The soil groupings along the trail in the Town of Schodack include Nassau-Mardin-Bernardston and Windsor-Oakville-Limerick-Hoosic. The shared use path from the Town of East Greenbush continues into the Town of Schodack along the existing railbed prism until Old Miller Road. The construction of the trail in this area will disturb Windsor-Oakville-Limerick-Hoosic soils which are slightly susceptible to erosion. Due to the level and highly compacted nature of the railbed prism there is minimal concern for erosion in this area. The trail follows Old Miller Road and continues on existing roadways to the I-90 Westbound off-ramp. From that point a new shared use path will be constructed to East Hill Road. In this section, the soils are Windsor-Oakville-Limerick-Hoosic, which are slightly susceptible to erosion. The beginning of this portion of the trail runs parallel to I-90 and due to the steep slopes will be paved asphalt to minimize erosion. The remaining portion of this section follows the existing railbed prism, so erosion is not a concern except for the areas that have washouts and where the new bridge will be installed due to the slopes in those areas. The trail follows East Hill Road before transitioning to a shared use path again until Trolley Way. This section of the trail will be constructed on top of the existing railbed prism in Nassau-Mardin-Bernardston soils which are moderately susceptible to erosion. Due to the nature of the railbed prism, erosion is expected to be minimal in this section. This section of trail also includes the Amelia court trailhead, due to the nature of the soils in this area and that it is generally flat, erosion concern is minimal. The trail continues along Trolley Way before transitioning to a new shared use path to the Village of Nassau Border. This section of trail follows the existing railbed prism and is in Windsor-Oakville-Limerick-Hoosic, so erosion is expected to be minimal. Another small portion of the trail extends into the Town of Schodack south of the Village of Nassau. This section of the trail is a new shared use path along the existing railbed prism in Windsor-Oakville-Limerick-Hoosic soils, so erosion is expected to be minimal.

Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be
accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer) Applies where the trail enters the Town of Schodack and to any storm structures that may receive stormwater from disturbed areas.
- Cofferdam Structures: Temporary coffer dams are used to separate streams, rivers, lakes, and other sources of surface water from adjacent locations where soil disturbances are undertaken to complete construction. These barriers can be constructed of manufactured components such as geotextile/plastic tubes filled with water, portable dams formed by metal framing with a geo-membrane, or conventionally constructed earth and stone dike systems.
- Turbidity Curtains: A turbidity curtain is generally used when construction activity occurs within a waterbody or along its shoreline and is of short duration, generally less than one month. Curtains are used in calm water surfaces and not in areas of flowing water. Turbidity curtains are not to be used across flowing watercourses.

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described in the following section will be included as part of the construction documents.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Rock Outlet Protection (See description in Town of East Greenbush)
- Armored Slope and Channel Stabilization: Armored slope and channel stabilization shall be installed at locations where riprap is used for cut and fill slopes subject to seepage, erosion, or weathering, particularly where conditions prohibit the establishment of vegetation. Riprap is also used for channel side slopes and bottoms. Temporary dewatering diversion channels where the flow velocities exceed 6 feet per second, grade sills, on shorelines subject to erosion, and at inlets and outlets to culverts, bridges, slope drains, grade stabilization structures, and storm drains.
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

Village of Nassau

Potential Impacts:

The soil group along the trail in the Village of Nassau is Windsor-Oakville-Limerick-Hoosic which is classified as being slightly susceptible to erosion. The shared use path from the Town of Schodack continues into the Village of Nassau with a bridge crossing where there is potential for erosion due to the slopes along the banks. The shared use path continues
to Albany Ave where it transitions to follow the existing roadway. The Village of Nassau Trailhead will be constructed in this area where there is an existing gravel parking area, due to the nature of the soils in this area and that it is generally flat erosion is expected to be minimal. The trail then transitions to a shared use path along the existing railbed prism to the village boundary where another bridge crossing will occur and have potential for erosion due to the steep slopes along the banks.

**Mitigation Measures:**

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

**Temporary Erosion and Sediment Control Measures:** The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)
- Cofferdam Structures (See description in Town of Schodack)
- Turbidity Curtains (See description in Town of Schodack)

**Permanent Erosion and Sediment Control Measures:** The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Rock Outlet Protection (See description in Town of East Greenbush)
- Armored Slope and Channel Stabilization (See description in Town of Schodack)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

**Town of Nassau**

**Potential Impacts:**

The soil group along the trail in the Town of Nassau is Windsor-Oakville-Limerick-Hoosic which is classified as being slightly susceptible to erosion. The shared use path from the Village of Nassau continues into the Town of Nassau with a bridge crossing where there is potential for erosion due to the slopes along the banks. The majority of the trail follows the existing railbed prism, so erosion is expected to be minimal. The shared use path continues to I-90 where it transitions to follow the existing roadway, NYS-203.
Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)
- Cofferdam Structures (See description in Town of Schodack)
- Turbidity Curtains (See description in Town of Schodack)

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Rock Outlet Protection (See description in Town of East Greenbush)
- Armored Slope and Channel Stabilization (See description in Town of Schodack)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

Town of Chatham

Potential Impacts:

The soil groupings along the trail in the Town of Chatham include Nassau-Mardin-Bernardston and Windsor-Oakville-Limerick-Hoosic. The trail continues along NYS-203 from the Town of Nassau to Depot Street where it transitions to a shared use path along the existing railbed prism. There is an intersection here that will be converted to a mini roundabout. The construction of this intersection will involve soil disturbance and due to the Nassau-Mardin-Bernardston soils in this area erosion is a moderate concern. The shared use path continues to Niagara Mohawk Road, this section of the trail has Windsor-Oakville-Limerick-Hoosic soils, which are slightly susceptible to erosion, but due to the nature of the railbed prism is expected to be minimal. However, there will be a new bridge installed in this section and a few small washouts that need to be repaired that will have potential for erosion due to embankment disturbance. The trail continues along Niagara Mohawk Road where the existing gravel road will be paved with minimal soil disturbance. The trail then transitions to a shared use path and continues to the Town of Chatham Boundary. This portion of the trail follows the existing railbed prism, so erosion is expected to be minimal due to the Windsor-Oakville-Limerick-Hoosic soils.
Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)
- Cofferdam Structures (See description in Town of Schodack)
- Turbidity Curtains (See description in Town of Schodack)

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Rock Outlet Protection (See description in Town of East Greenbush)
- Armored Slope and Channel Stabilization (See description in Town of Schodack)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

Town of Kinderhook

Potential Impacts:

The soil group along the trail in the Town of Kinderhook is Windsor-Oakville-Limerick-Hoosic which is classified as being slightly susceptible to erosion. The shared use path from the Town of Chatham continues into the Town of Kinderhook along the existing railbed prism so erosion is expected to be minimal. The Niverville trailhead will be constructed along this portion of the trail, which will involve disturbance of natural soil. The trailhead area is generally flat and due to the nature of the soils in this area, erosion is expected to be minimal. There is a bridge crossing and washout in this section of trail where there is potential for erosion due to the slopes along the banks. The shared use path continues into the Village of Valatie.

Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance,
maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)
- Cofferdam Structures (See description in Town of Schodack)
- Turbidity Curtains (See description in Town of Schodack)

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Rock Outlet Protection (See description in Town of East Greenbush)
- Armored Slope and Channel Stabilization (See description in Town of Schodack)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

Village of Valatie

Potential Impacts:

The soil group along the trail in the Village of Valatie is Windsor-Oakville-Limerick-Hoosic which is classified as being slightly susceptible to erosion. The shared use path from the Town of Kinderhook continues into the Village of Valatie along the existing railbed prism so erosion is expected to be minimal. The Valatie Trailhead will be constructed at an existing gravel parking area; erosion is expected to be minimal in this area due to the nature of the soil and generally flat slopes. The trail transitions to a side path along Main Street and follows the existing roadway to River Street. The construction of this side path will involve widening of the sidewalk, but the soil disturbance associated with that will be minimal. The trail continues as a shared use path along the existing railbed prism to the intersection of NYS-9. Due to the nature of the railbed prism erosion is expected to be minimal in this section. The trail transitions along route 9 to follow the existing roadway to the Village of Valatie border.

Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.
Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

Village of Kinderhook

Potential Impacts:

The soil group along the trail in the Village of Kinderhook is Windsor-Oakville-Limerick-Hoosic which is classified as being slightly susceptible to erosion. The on-road trail from the Village of Valatie continues into the Village of Kinderhook along the existing roadway so erosion is expected to be minimal. The trail transitions to a shared use path along the existing railbed prism to Railroad Avenue. The trail continues on a side path along Albany Avenue before transitioning back to a shared use path along the existing railbed prism to the Village of Kinderhook border. The Kinderhook Park Trailhead will be constructed along this portion of the trail. The construction will be a gravel parking area and due to the nature of the soil and the flat slopes erosion is a minimal concern.

Mitigation Measures:

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)
Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

**Town of Stuyvesant**

**Potential Impacts:**

The soil group along the trail through the Town of Stuyvesant is Windsor-Oakville-Limerick-Hoosic which is classified as being slightly susceptible to erosion. The shared use path portion of the trail begins after the shared road segment along Sunnyside Lane that lead the trail into the Town ends. All of the shared use path in the Town aligns with the railbed prism and is anticipated to have minimal erosion issues. The Hudson Avenue & Woods Lane Trailhead is located at the southern end of the trail in the Town and is proposed to have a gravel parking area to provide pedestrian access to the trail. The trail segment through the Town of Stuyvesant maintains separation from Kinderhook Creek and should need minimal slope stabilization.

**Mitigation Measures:**

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

**Temporary Erosion and Sediment Control Measures:** The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)

**Permanent Erosion and Sediment Control Measures:** The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.
Town of Stockport

Potential Impacts:
The soil groups along the trail in the Town of Stockport consist of Rhinebeck-Niagara-Hudson-Dunkirk-Collamer and Windsor-Oakville-Limerick-Hoosic soils. The northern portion of the trail through the Town lies within the Windsor-Oakville-Limerick-Hoosic soil grouping and is slightly susceptible to erosion. A majority of the northern portion of the trail aligns with the existing railbed prism, however, due to the trail’s proximity to Kinderhook Creek and existing washout areas through this segment there is potential for erosion due to the embankments. The trail continues along Hudson Road where the soil transitions to Rhinebeck-Niagara-Hudson-Dunkirk-Collamer. The southern part of the trail through the Town is in the soil grouping Rhinebeck-Niagara-Hudson-Dunkirk-Collamer which is highly susceptible to erosion. A majority of the southern portion of the trail aligns with the railbed prism and has decent separation from Kinderhook Creek until the trail reaches the Stockport Park Trailhead, therefore major issues are not anticipated. The Stockport Park Trailhead is developed as a baseball/softball facility. The plan proposes to expand and enhance the existing gravel parking area. There is minimal new soil disturbance at the Stockport Park Trailhead. A short segment of the trail after the trailhead in the Town parallels Kinderhook Creek briefly along the existing rail prism. The soils in this area are Rhinebeck-Niagara-Hudson-Dunkirk-Collamer, which are highly susceptible to erosion, but due to the nature of the level, densely compacted rail bed will have minimal erosion.

Mitigation Measures:
A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

Temporary Erosion and Sediment Control Measures: The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)
- Cofferdam Structures (See description in Town of Schodack)
- Turbidity Curtains (See description in Town of Schodack)

Permanent Erosion and Sediment Control Measures: The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Rock Outlet Protection (See description in Town of East Greenbush)
- Armored Slope and Channel Stabilization (See description in Town of Schodack)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and
wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

**Town of Greenport**

**Potential Impacts:**

The soil group along the trail as it enters the Town of Greenport is Rhinebeck-Niagara-Hudson-Dunkirk-Collamer which is classified as being highly susceptible to erosion. The shared use portion of the trail that is encompassed by the Rhinebeck-Niagara-Hudson-Dunkirk-Collamer within the Town does not have many steep sections and is separated from Claverack Creek by at least ±100 feet, therefore it is not anticipated to be at high risk for erosion. The trail eventually parallels State Route 9, between a developed parking area and Route 9.

**Mitigation Measures:**

A SWPPP will be developed that will outline temporary and permanent erosion and sediment control practices that will be utilized during construction to minimize sediment transport offsite. During construction, soil erosion control will be accomplished by sequencing site disturbance activities, establishing erosion controls, minimizing areas of disturbance, maintaining existing vegetation as much as possible, evaluation of dewatering needs and methods, and stabilization of newly disturbed areas as soon as possible.

**Temporary Erosion and Sediment Control Measures:** The temporary erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Stabilized Construction Access (See description in Town of East Greenbush)
- Sediment Barrier (See description in Town of East Greenbush)
- Dust Control (See description in City of Rensselaer)
- Temporary Seeding (See description in Town of East Greenbush)
- Erosion Control Blanket (See description in Town of East Greenbush)
- Inlet Protection Barrier (See description in City of Rensselaer)

**Permanent Erosion and Sediment Control Measures:** The permanent erosion and sediment control measures described below will be included as part of the construction documents for this section of the trail.

- Establishment of Permanent Vegetation (See description in Town of East Greenbush)
- Soil Restoration (See description in Town of East Greenbush)

In addition to the temporary and permanent erosion and sediment control measures outlined above, good housekeeping practices will be implemented to further reduce the potential for pollutants to enter adjacent waters and wetlands from stormwater events during construction. These requirements for solid and liquid waste disposal, and sanitary facilities will be described in the SWPPP.

### 4.1.3 Bedrock Geology

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or ‘scope’ of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially involve construction on land where bedrock is exposed or within 5 ft. of existing ground surface. The following section evaluates the potential of this impact and provides mitigation measures where necessary.
Environmental Setting

The identification of bedrock along the project route is necessary to assess limitations or potential for footings or pile driven structures. The bedrock geology of the proposed trail corridor was mapped using resources produced by the Natural Resources Conservation Service (NRCS). (See Appendix 4.1.3). The mapping shows all known bedrock locations in the project area and has been color coded to identify bedrock that is located within the first 5 feet of the existing ground surface and bedrock below 5-foot depth. A discussion of the bedrock within each municipality can be found below.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer

No bedrock within 5’ of existing ground surface was identified for the 1.13-mile trail section through the City of Rensselaer.

Town of East Greenbush

The Town of East Greenbush encompasses 5.35 miles of the AHET trail, with approximately 0.88 miles or 14% of the trail having bedrock within 5’ of existing ground surface. Since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism with minimal soil disturbance, no disturbance to bedrock is expected. No bedrock was discovered near the washout approximately 700’ north of the trails intersection with NYS Route 418 where a new culvert installation is proposed.

Town of Schodack

The Town of Schodack encompasses 7.6 miles of the AHET trail, with approximately 2.09 miles or 27% of the trail having bedrock within 5’ of existing ground surface. Since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism with minimal soil disturbance, no disturbance to bedrock is expected. No bedrock was discovered near the proposed Bridge #1 approximately 50’ south of the trails intersection with E Hill Rd19 across the Moordener Kill. Bedrock was discovered within 5’ of the existing surface near the Brookside Drive culvert replacement. Since the existing culvert will be replaced in kind, no additional bedrock removal is expected.

Village of Nassau

No bedrock within 5’ of existing ground surface was discovered for the 0.98-mile trail section through the Village of Nassau. No bedrock was discovered near the proposed Bridges #2 approximately 450’ south of the trails intersection with NYS Route 720 and Bridge #3 approximately 1400’ south of the trails intersection with Longview Ave.21 across the Valatie Kill.

Town of Nassau

No bedrock within 5’ of existing ground surface was discovered for the 1.81-mile trail section through the Town of Nassau. No bedrock was discovered near the proposed Bridge #4 approximately 3500’ north of the trails intersection with Sweets Crossing Rd.22 across the Valatie Kill.

18 Sta. EG 91+00
19 Sta. SC 166+00
20 Sta. NA 171+00
21 Sta. NA 119+00
22 Sta. NA 98+00
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Town of Chatham
The Town of Chatham encompasses 3.25 miles of the AHET trail with approximately 0.23 miles or 7% having bedrock within 5’ of existing ground surface. Since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism with minimal soil disturbance, no disturbance to bedrock is expected. No bedrock was discovered near the proposed Bridge #5 approx. 250' south of the trails intersection with Little Lake Rd.23 across the Valatie Kill.

Town of Kinderhook
No bedrock within 5’ of existing ground surface was identified for the 2.45-mile trail section through the Town of Kinderhook. No bedrock was discovered near the proposed Bridge #6 approximately 4250’ south of the trails intersection with NYS Route 2824 across the Valatie Kill.

Village of Valatie
The Village of Valatie encompasses 1.49 miles of the AHET trail with approximately 0.64 miles or 44% having bedrock within 5’ of existing ground surface. Since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism with minimal soil disturbance, no disturbance to bedrock is expected.

Village of Kinderhook
No bedrock within 5’ of existing ground surface was identified for the 1.86-mile trail section through the Village of Kinderhook.

Town of Stuyvesant
The Town of Stuyvesant encompasses 2.71 miles of the AHET trail with approximately 0.35 miles or 13% having bedrock within 5’ of existing ground surface. Since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism with minimal soil disturbance, no disturbance to bedrock is expected.

Town of Stockport
The Town of Stockport encompasses 5.66 miles of the AHET trail with approximately 0.71 miles or 13% having bedrock within 5’ of existing ground surface. Since the trail will utilize existing roadways or be constructed on top of the existing rail bed prism with minimal soil disturbance, no disturbance to bedrock is expected. No bedrock was discovered near the Keil Road washout approximately 450’ north of the trails intersection with Keil Road25 where a new culvert installation is proposed.

Town of Greenport
No bedrock within 5’ of existing ground surface was identified for the 1.67-mile trail section through the Town of Greenport.

4.1.4 Stormwater Management
The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be

23 Sta. CH 85+00
24 Sta. KI 218+50
25 Sta. SP 294+00
addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies. The following section evaluates the extent of this potential impact and provides mitigation measures where necessary.

Environmental Setting

A Stormwater Pollution Prevention Plan (SWPPP) will be required for the trail that outlines the pollution prevention and erosion and sediment control measures required for the project during and following construction. According to Appendix B, Table 1 of GP-0-15-002, trail projects that sheet flow stormwater runoff to adjacent vegetated areas are exempt from post-construction stormwater management. The vast majority of the AHET trail will be designed to allow stormwater to sheet flow to adjacent vegetated buffers, meeting the permit requirements. The SWPPP will be developed in accordance with the “New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity” General Permit Number GP-0-15-002, effective January 29, 2015 through January 28, 2020.

Other clearing and ground disturbances associated with the project (trailheads, bridges, utility pole relocation, temporary construction disturbances, etc.) are greater than ¼ mile apart so they are considered separate plans of development according to GP-0-15-002. Therefore, these areas of disturbance and are not subject to GP-0-15-002 permit coverage unless an area disturbs more than one acre individually, however combinations of areas within ¼ mile of each other have been taken into consideration. Disturbances along the trail are spaced to reduce the amount of combined disturbances. The AHET trail project was designed to limit soil disturbance as much as practical and no additional areas of disturbance exceeds one acre. See Figures 4.1.4.1 - 4.1.4.8 for a breakdown of disturbance areas and separation distances. Although erosion and sediment control practices in these areas will not be regulated under GP-0-15-002 permit, they will be within the construction plans to limit to potential for erosion.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer

Environmental Setting:

The City of Rensselaer is home to the north end of the trail beginning with the Riverfront Park Trailhead. The trailhead will be located at Riverfront Park that includes baseball fields, tennis courts, playground, amphitheater, and picnic area. The City of Rensselaer includes ±1.1 miles of trail following existing City sidewalks (extending south-southeast along Columbia Turnpike) and a separate ±1.0 miles of bicycle lane trail on existing roadways extending east along 3rd Avenue. The entire trail route through the City is on existing roadways with sidewalks and pedestrian/bicycle amenities. Existing stormwater runoff along the trail route typically enters the City’s closed drainage system. This project is located within the City of Rensselaer’s regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Submission of the SWPPP to the MS4 for review and acceptance is not required since the project is being administered and funded by a NYS agency. The NYSDEC will review the SWPPP for the project.

Potential Impacts:

Construction activities at the Riverfront Park Trailhead will consist of striping the existing parking and adding signage. Trail construction activities will consist primarily of improving existing sidewalks with updated signage, ADA compliant ramps, crosswalks in conformance with the NYSDOT, and repaving parts of existing sidewalk that are in disrepair. The construction activities in the City of Rensselaer are expecting minimal soil disturbance since sidewalk repair or replacement will be completed on existing subbase material. Construction phase pollutant sources anticipated at the site are vehicle fuels and lubricants and construction debris. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater.
Mitigation Measures:
Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the City of Rensselaer.

Town of East Greenbush

Environmental Setting:
The Town of East Greenbush has two portions of trail entering the municipality from the northwest. The northern portion of the trail continues the bicycle route and is ±1.9 miles. It continues along 3rd Avenue, turns south following Barrack Road, and turns to continue south along Sherwood Avenue. The southern portion of the trail continues the pedestrian route along Columbia Turnpike for ±0.9 miles. The bike route and pedestrian route merge together to form one shared use trail near the proposed Clinton Street Trailhead location. The trailhead location uses an existing NYS owned parking lot. The trail continues southwest along Southern Avenue for ±0.4 miles until the road dead ends and the trail follows the National Grid corridor for ±1.2 miles through residential developments. A ±0.1-mile portion of the corridor goes through a commercially zoned trucking storage facility that is primarily a gravel parking lot. The trail route eventually aligns with the entirety of Brossel Road for ±0.1 miles and continues southwest on the National Grid corridor until it reaches Point View Drive. This section of the trail has a 150’ x 40’ embankment washout that will need to be restored. The trail route is designated on road for ±0.6 miles along Point View Drive, Tamarack Lane and Greenwood Drive before returning to the National Grid corridor. The trail route follows the National Grid corridor for another ±0.6 miles to the southern boundary of the Town. Existing stormwater runoff along roadways and sidewalks collects in the Town’s closed drainage system. Trail runoff from within the National Grid corridor sheet flows into adjacent natural vegetation and infiltrates into the ground. This project is located within the Town of East Greenbush’s regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Submission of the SWPPP to the MS4 for review and acceptance is not required since the project is being administered and funded by a NYS agency. The NYSDEC will review the SWPPP for the project.

Potential Impacts:
Construction activities at the Clinton Street trailhead will consist of striping and adding signage to the existing paved parking area. The portions of trail on existing sidewalks will include signage, ADA compliant ramps, crosswalks in conformance with the NYSDOT, and spot repairs of deteriorated concrete. The portions of trail along the National Grid corridor will include the construction of a 12’ wide asphalt trail on the existing railbed prism, a path that is generally flat on the top that slopes away on each side. Portions of the trail through the truck storage facility will be an at grade paved trail section which will be protected by guiderail to prevent conflicts between trail users and trucks accessing the facility. The 150’x40’ embankment washout will be reconstructed with a new 48” RCP culvert and fill back to existing grades. Construction phase pollutant sources anticipated at the site are disturbed (exposed) soil and vehicle fuels and lubricants. Without adequate control, there is the potential for each type of pollutant to be transported by stormwater.

Mitigation Measures:
Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of East Greenbush.

Town of Schodack

Environmental Setting:
The Town of Schodack continues the trail route from the northern edge of the municipality in a south-southeast direction for ±0.3 miles along the National Grid corridor. The route intersects with and follows Old Miller Road for ±0.2 miles then turns along Miller Road for ±0.4 miles. Miller Road brings the trail route to the east side of I-90 where it runs
parallel with I-90 before realigning with the National Grid corridor. The trail route continues generally southeast through mostly wooded areas and across the Moordener Kill as well as through various residential roads for ±3.1 miles. This section of the route has a washout area at a collapsed culvert near Brookside Drive. The National Grid corridor intersects with a residential area on East Hill Road where the trail route briefly deviates and follows East Hill Road for ±0.1 miles until it merges back into the corridor. The trail route continues to follow the National Grid corridor for ±1.0 miles to where the Amelia Court Trailhead is located. The Amelia Court Trailhead site is located along the original alignment of County Route 7 (the trailhead site is owned by Rensselaer County). The trail route continues southeast from the trailhead and curls south for ±0.8 miles to where it meets and parallels Trolley Way and continues along the west side of Nassau Lake for ±0.3 miles to the west of Nassau Lake. From the south end of Trolley Way, the trail continues ±1.2 miles along the National Grid corridor until the trail route enters the Village of Nassau over the Valatie Kill. The trail route briefly re-enters the Town of Schodack ±1.0 mile south-southwest from where it entered the Village of Nassau. The trail crosses over the Valatie Kill and continues to follow the National Grid corridor for ±0.4 miles until it enters the Town of Nassau back over the Valatie Kill. The southern portion of the trail drains primarily to the Valatie Kill.

This project is located within the Town of Schodack’s regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Submission of the SWPPP to the MS4 for review and acceptance is not required since the project is being administered and funded by a State agency. The NYSDEC will review the SWPPP for the project.

Potential Impacts:

Trail runoff along existing roadways within the Town of Schodack is not anticipated to change as there will be minimal soil disturbance. Along the National Grid corridor trail runoff is expected to remain the same as existing. Storm runoff will generally infiltrate into the ground adjacent to the trail. To the extent any surface runoff occurs, drainage is to the Moordener Kill north of the proposed trailhead location, and into the Valatie Kill/Nassau Lake south of the trailhead site. The trail route that travels along Miller Road between Old Miller Road and the northbound I-90 exit ramp will include the construction of a 12’ wide asphalt sidepath. The portions of the trail along the National Grid corridor include construction of a 10’ wide stone dust path along the existing railroad prism. The section of the trail that parallels I-90 will include a 10’ wide asphalt switchback due to the steep grades. Bridge #1 across the Moordener Kill will be a new bridge that will be constructed on new abutments behind the existing abutments. The bridge construction has potential impacts to the embankments and possible temporary stream disturbance. The proposed trailhead at Amelia Court will utilize existing paved surfaces and expanded parking with an additional asphalt parking area. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings.

Mitigation Measures:

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Schodack.

Village of Nassau

Environmental Setting:

The AHET trail crosses the Valatie Kill north of the Village of Nassau and follows the National Grid corridor southeast for ±0.4 miles until the route crosses Albany Avenue and aligns with a ±0.1-mile-long gravel alley used by local businesses. The trail continues on a gravel path leading into the Nassau Village Commons Park and baseball facility, where a trailhead will be improved upon. From the trailhead, the route continues along the corridor for another ±0.5 miles where the route re-enters the Town of Schodack by crossing the Valatie Kill at the south end of the Village. A majority of the trail route in the Village appears to infiltrate into the ground or sheet runoff overland towards the Valatie Kill as the Village does not appear to have a closed drainage system.

Potential Impacts:

Drainage patterns are not expected to change within the Village of Nassau. A new bridge, Bridge #2, across the Valatie...
Kill will start the trail section in the Village. The bridge will be constructed on new abutments behind the existing abutments and has potential impacts to the embankments and possible temporary stream disturbance. The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. The existing gravel alley and 12’ wide trail between Albany Avenue and Nassau Village Commons Park will be paved asphalt to promote local businesses and pedestrian access. The Nassau Village Commons Park will become a trailhead and include expanded paved parking areas with striping and signage. The trail will exit the Village on a new bridge, Bridge #3, which will be constructed on existing abutments and has potential impacts to the embankments and possible temporary stream disturbance. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings.

Mitigation Measures:

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Village of Nassau.

Town of Nassau

Environmental Setting:

The AHET trail runs south of the Village of Nassau, entering the Town of Nassau at the crossing of the Valatie Kill and following the National Grid corridor southeast for ±1.5 miles until it reaches I-90 at the southwest corner of the Town. The route continues parallel to I-90 for ±0.3 miles in a westerly direction, to where an existing bridge carries I-90 over NYS Route 203. The route continues along NYS Route 203 until it leaves the municipality, as well as Rensselaer County, heading southwest into the Town of Chatham and Columbia County. Drainage along the Town’s portion of the trail appears to infiltrate into the ground or sheet stormwater towards the Valatie Kill.

Potential Impacts:

Drainage patterns are not expected to change within the Town of Nassau since the majority of the trail is through wooded areas. A new bridge, Bridge #4, across the Valatie Kill will start the trail section in the Town. The bridge will be constructed on new abutments behind the existing abutments and has potential impacts to the embankments and possible temporary stream disturbance. The portions of the trail along the National Grid corridor include construction of a 10’ wide stone dust path along the existing railbed prism. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings.

Mitigation Measures:

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Nassau.

Town of Chatham

Environmental Setting:

The AHET trail follows NYS Route 203 into the Town of Chatham for ±0.6 miles, to the point where the route intersects with the National Grid corridor. The intersection of NYS Route 203, County Route 32 and Bunker Hill currently is a single stop intersection that has limited sight distance. The trail follows the National Grid corridor through wooded areas for ±1.8 miles across the Valatie Kill before it aligns with Niagara Mohawk Road. The route will follow the entirety of Niagara Mohawk Road for ±0.3 miles which is a gravel roadway which provides access to residential lots along the west side of Kinderhook Lake. At the end of Niagara Mohawk Road, the trail route continues south via the National Grid corridor parallel to Kinderhook Lake and through wooded areas until it goes into the Town of Kinderhook. Stormwater primarily infiltrates into the ground adjacent to the trail corridor. Any surface runoff within the Town of Chatham drains primarily into Kinderhook Lake, either directly or via the Valatie Kill.
Potential Impacts:
The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. An evaluation will be completed to determine if the intersection of NYS Route 203, County Route 32 and Bunker Hill Road should be redesigned to improve vehicle movement and increase pedestrian crossing safety. If a project is advanced to reconstruct the intersection, the area of disturbance will have ±0.25 acres. An old stone livestock crossing north of Waldorf Road will need to be spanned, an evaluation will be completed to determine the best method. Bridge #5, a new bridge across Valatie Kill will be installed on new abutments behind the existing bridge abutments and has potential impacts to the embankments and possible temporary stream disturbance. On Niagara Mohawk Road, the AHET route will be a 20’ wide paved asphalt section to accommodate motor vehicle access for adjacent residents in a “shared roadway” configuration. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings. Stormwater drainage patterns throughout the Town are anticipated to remain the same.

Mitigation Measures:
Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Chatham.

Town of Kinderhook
Environmental Setting:
The trail route enters the Town of Kinderhook with a ±2.2-mile stretch of the National Grid corridor that travels under an existing overpass for the CSX railway and crossing the Valatie Kill until the trail enters the Village of Valatie. Eventually the trail re-enters the Town from the Village of Kinderhook and continues along the National Grid corridor for ±0.3 miles to the Town of Stuyvesant. Stormwater within the Town of Kinderhook’s part of the trail route is either infiltrated by means of the wooded areas surrounding the trail or drains into the Valatie Kill, leading into Kinderhook Creek.

Potential Impacts:
The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. The Niverville Trailhead will be constructed near the intersection of NYS Route 203 and County Route 28. The trailhead will consist of a paved parking area and signage where a wooded National Grid property exists. Portions of the trail may require restoration to existing grade, which will be completed with suitable fill materials. A new pedestrian crossing, Bridge #6, over the Valatie Kill is proposed. The bridge will be constructed on new abutments behind the existing abutments and has potential impacts to the embankments and possible temporary stream disturbance. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings. The drainage patterns throughout the Town are anticipated to remain the same.

Mitigation Measures:
Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Kinderhook.

Village of Valatie
Environmental Setting:
The Village of Valatie’s portion of the trail begins at the north end of the municipality to the west of the Valatie Kill, and continues ±0.6 miles following the National Grid corridor until it intersects with Main Street. The trail crosses over Main Street, follows along the right turn lane of US Route 9, and follows Kinderhook Street until the National Grid corridor can be accessed. The route continues on the Nation Grid corridor for ±0.7 miles until it crosses US Route 9 near the intersection of US Route 9H. A portion of the corridor follows the Valatie Treatment Plant’s access road. US Route 9 shoulders and sidewalks will be used as the trail’s bike and pedestrian routes, respectively, for ±0.1 miles until the route
exits the Village. It is anticipated that a majority of the Village’s part of the trail route infiltrates into the ground; any surface water runoff drains into either the Valatie Kill or Kinderhook Creek.

**Potential Impacts:**

The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. The Valatie Trailhead will be constructed on Ridge Road at a site currently serving as a gravel parking/turnaround area, which drains to the Valatie Kill (the trailhead property will require acquisition). The Valatie Trailhead will pave the existing gravel area for parking and add appropriate signage. The intersection at Main Street will have pedestrian crossing improvements and construction of a sidepath through the Village until the route enters the National Grid corridor. The Valatie Treatment Plant’s existing gravel drive will be paved with asphalt and is anticipated to cause minimal ground disturbance. Sidewalks and associated ramps along Kinderhook Street will be updated and improved to include better pedestrian accommodations. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings. The drainage patterns throughout the Village are anticipated to remain the same.

**Mitigation Measures:**

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Village of Valatie.

**Village of Kinderhook**

**Environmental Setting:**

The AHET trail in the Village of Kinderhook follows US Route 9 and extends southwest for ±0.3 miles until the route intersects with the National Grid corridor on the west side of the road. From the roadway, the National Grid corridor and trail route continue ±0.4 miles to Mills Park. From Mills Park, the trail turns south and follows County Route 21 for a short distance before accessing an existing dirt access way owned by the Columbia County Historical Society. The trail will follow the driveway and a portion of the property for ±0.1 miles until access to the National Grid corridor is reestablished (use of this proposed route will require approval by the Historical Society). The trail follows the National Grid corridor for ±1.1 miles to the Town of Kinderhook. This section of the trail passes the Kinderhook Rothermel Park/Village Playground which serves as a public recreation facility with multiple fields and courts. The majority of the stormwater in the Village of Kinderhook infiltrates into the ground; any surface runoff drains to the southeast boundary of the municipality that is delineated by Kinderhook Creek.

**Potential Impacts:**

Sidewalks and associated ramps along Kinderhook Street will be updated and improved to include better pedestrian accommodations. The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. An evaluation will be completed to determine whether any sections should be paved asphalt (rather than stonedust) for trail durability purposes. A new 10’ wide paved side path will be constructed along the portion of the trail adjacent to County Route 21. The section of the trail along the Historical Society dirt access way will be improved with stone dust to match the other portions of the trail. The existing park at the Kinderhook Rothermel Park/Village Playground Trailhead will include construction of a new paved parking area to better accommodate traffic associated with the trail access. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings. The drainage patterns throughout the Village are anticipated to remain the same.

**Mitigation Measures:**

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Village of Kinderhook.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Town of Stuyvesant

Environmental Setting:
The trail route enters the Town of Stuyvesant along its eastern municipality limits from the Town of Kinderhook and continues southwest for ±0.3 miles until it deviates from the corridor at the trail’s intersection with Smith Road. The route follows Smith Road and then southwest on US Route 9 for ±0.3 miles to avoid trail conflicts with local farming operations that occupy the National Grid corridor. The trail turns off US Route 9 and follows Sunnyside Road for ±0.6 miles. From there the trail realigns with the National Grid corridor for ±1.5 miles heading southwest along Kinderhook Creek to the Town of Stockport. The portions of trail within the Town drain towards Kinderhook Creek or infiltrates into the surrounding wooded areas or farmlands.

Potential Impacts:
The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. Where the trail parallels Smith Road and US Route 9, an asphalt sidepath will be installed, including associated pedestrian signage, pavement striping and crossings. Installation of the asphalt sidepath will involve some disturbance of soils; however, it is anticipated to extend minimally outside of the trail itself. The Stuyvesant Falls Trailhead will receive an expanded paved parking area and associated signage. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings. The drainage patterns throughout the Town are anticipated to remain the same.

Mitigation Measures:
Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Stuyvesant.

Town of Stockport

Environmental Setting:
South of the Town of Stuyvesant, the AHET trail continues along the National Grid corridor. A large washed out segment of the trail is located north of Keil Road. From there it continues to the Town of Stockport along the National Grid corridor for ±1.7 miles before reaching County Route 25. The trail continues generally south along County Route 25 for ±1.7 miles where the trail crosses to the west side of Claverack Creek over an existing bridge. The trail route turns on Urban Road for ±0.2 miles along Claverack Creek where it intersects the National Grid corridor after crossing Loomworks Road. The corridor extends south for ±3.9 miles before entering the Town of Greenport. Stormwater along the trail route within the Town of Stockport generally infiltrates into the ground; any surface runoff drains toward Claverack Creek.

Potential Impacts:
The portions of the trail along the National Grid corridor include installing a 10’ wide stone dust path along the existing railbed prism. The Keil Road washout area will be corrected with the installation of a box culvert and structural fill soils installed. In locations where slope failures have occurred, slope stabilization measures will be installed and may involve disturbance of surrounding soils to appropriately grade the replaced land banks. Where the trail aligns with County Route 25, additional signage and striping will be added with minimal disturbance anticipated. The intersection of County Route 25 and Urban Road will be realigned for a stop sign controlled intersection to provide safer pedestrian and vehicle passage through the intersection. The Stockport Trailhead will be established in Stottville at an existing public recreation facility with a baseball/softball field that currently drains into the ground or adjacent Claverack Creek. The existing gravel parking area will be paved, expanded upon, and will receive appropriate signage. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings. The drainage patterns throughout the Town are anticipated to remain the same.
Mitigation Measures:

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Stockport.

Town of Greenport

Environmental Setting:

South of Stottville, the AHET trail enters the Town of Greenport on the National Grid corridor. The trail continues for ±1.6 miles within the National Grid Corridor that runs behind developed commercial and retail properties along US Route 9 (also named Fairport Avenue). The off-road trail route ends at the intersection with Kipp Lane. From there, the trail route will follow a separated side path parallel to US Route 9 for ±0.1 miles to the endpoint of the Albany-Hudson Electric Trail, located at the intersection of US Route 9 and Livingston Parkway. [Note: NYSDOT is developing a separate project to continue to the Empire State Trail along Livingston Parkway and Joslen Boulevard into the City of Hudson.]

Potential Impacts:

The portions of trail along the National Grid corridor will include the construction of a 10’ wide stone dust trail on the existing railbed prism. A 10’ wide asphalt sidepath will be constructed along the section of the trail that parallels US Route 9, located in the grassed ROW adjacent to the roadway. Minor disturbances are expected for installation of trail signage and miscellaneous road crossings.

Mitigation Measures:

Stormwater management practices will not be required under GP-0-15-002 permit. A SWPPP will be developed that includes temporary and permanent erosion and sediment control practices only. See Section 4.1.2 for a list of erosion and sediment control practices proposed within the Town of Greenport.

4.2 Water

4.2.1 Freshwater Wetlands

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body. The following section evaluates the extent of this potential impact and provides mitigation measures where necessary.

Environmental Setting

Wetlands are a common feature of the landscape in New York State. The topography and watersheds of the Hudson Valley support an abundance of wetland acreage and wide variety of wetland types. A review of the US Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping indicates the occurrence of approximately 30 federal wetland communities within the trail corridor. (See Appendix 4.2.1, Figures 4.2.1.1 – 4.2.1.9). The estimated total acreage of NWI mapped wetlands within the subject area is 6.0 acres. This figure is only for mapped federal wetlands, not actual ground-truthed delineated wetlands. NWI mapping categorizes wetlands based on their primary vegetative community. Specifically, the NWI mapping indicates that riverine wetlands are the dominant wetland community in the area, totaling approximately 2.9 acres. Forested/shrub wetland communities total approximately 2.2 acres, and NWI mapping indicates approximately 0.5 acre of emergent and open water wetland communities in the corridor.
A review of NYSDEC Freshwater Wetland mapping indicates that there are seven mapped state-regulated wetland communities that overlap the corridor (See Table 4.2.1.1 and Appendix 4.2.1). Three additional state wetlands are mapped in close proximity to the trail corridor, resulting in the trail falling within several 100-foot regulatory adjacent areas.

### Table 4.2.1.1 Mapped State Regulated Wetlands Within the Study Area

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<thead>
<tr>
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In support of the Project, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) identified wetlands and streams within or adjacent to the proposed AHET corridor. Specific tasks performed for this study included 1) review of background resource data/mapping; 2) field delineation and flagging of potential state and federal jurisdictional wetlands and streams; 3) Global Positioning System (GPS) survey of delineated wetland and stream boundaries; 4) quantification of the area of on-site wetlands and streams; and 5) description of these potential jurisdictional areas based on hydrology, vegetation, and soils data collected in the field.

Wetlands and streams were identified within a 36-mile by 60-foot wide corridor in which project construction may be required, (i.e., the anticipated limit of disturbance), hereafter known as the Study Area. EDR personnel conducted field delineations of wetlands and streams in the proposed Study Area from October 11 to November 16, 2017. The identification of wetland boundaries was based on the methodology described in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the methodologies presented in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (USACE, 2012). Attention was given to the identification of potential hydrologic connections between wetlands and areas that could influence their jurisdictional status. Wetland boundaries were defined in the field with sequentially-numbered pink surveyor’s flagging and were subsequently mapped using a Trimble GeoExplorer® 7X Series unit with reported sub-meter accuracy. At each delineated wetland, data were collected from sample plots in representative wetland cover types and recorded on USACE Routine Wetland Determination forms (Appendix 4.2.1). The data collected at each wetland included dominant vegetation, hydrology indicators, and soils characteristics. Jurisdictional areas were characterized according to the wetlands and deepwater habitats classification system used in NWI mapping (Cowardin, 1979).

Information pertaining to individual wetland and water resources is summarized in Table 4.2.1.2. This table includes overall wetland acreage within the Study Area as well as jurisdictional coverage for each location and classification of resources. Specific Cowardin type wetlands within the Study Area are described below.

Emergent Wetlands – Of the wetlands identified within the Study Area, 49 have substantial areas dominated by emergent vegetation. These wetlands are characterized by the dominance of erect rooted herbaceous wetland plants and a more persistent and/or deeper inundation than scrub-shrub wetlands. Emergent wetlands delineated in the Study Area were dominated by herbaceous plants such as purple-loosestrife (*Lythrum salicaria*), phragmites (*Phragmites*...
australis), narrowleaf cattail (Typha angustifolia), reed canary grass (Phalaris arundinacea), and in the southern section of the Study Area, Japanese stiltgrass (Microstegium vimineum). Dominant vegetation in the upper canopy and overstory included silky dogwood (Cornus amomum), and various willow species (Salix sp). Evidence of wetland hydrology in the emergent wetlands identified within the Study Area included standing surface water, a high-water table, saturated soils, oxidized rhizospheres on living roots, and FAC-neutral test. Hydric soil conditions observed within emergent wetlands included low chroma matrix colors ranging from very black to brown (10YR 2/1, 10YR 3/2) with redox concentrations (10YR 4/4, 10YR 5/4, 7.5YR 5/6) in the matrix. Hydric soil indicators in the wetland included redox dark surface (F6), and depleted matrix (F3). The soils sampled within emergent wetlands were mucky clayey loams.

Vegetation observed in the uplands adjacent to delineated emergent wetlands included wrinkled and Canada golden rod (Solidago rugosa, Solidago canadensis), red and white clover (Trifolium pratense, Trifolium arvense), orchard grass (Dactylis glomerata), bedstraw (Galium mollugo), Morrow’s honeysuckle (Lonicera morrowii), and staghorn sumac (Rhus typhina). The uplands displayed no evidence of wetland hydrology and the loose dry silt or clay loam soils ranged from brown to very dark greyish brown (7.5YR 4/3 and 10YR 3/2) and were not indicative of hydric conditions. Many of the soils in the uplands were disturbed and included a restrictive gravel layer 3 to 6 inches from the surface.

Forested Wetlands – One wetland within the Study Area was found to contain areas of forest vegetation (Wetland O). The forested wetland community was dominated by trees that are at least 20 feet tall, but also included an understory of shrub and herbaceous species. Dominant overstory species included red maple (Acer rubrum) and American elm (Ulmus americana). Understory vegetation included saplings of Green ash (Fraxinus pennsylvanica). Herbaceous species in forested wetlands included reed canary grass (Phalaris arundinacea) and devil’s beggar-ticks (Bidens frondosa).

Evidence of hydrology in this wetland included drainage patterns and FAC-neutral Test. The hydric soil characteristic observed was loamy greyed matrix (F2). The soil matrix was a black and grayish brown silt loam (7.5YR 2.5/1 and 10YR 4/2) with redox features (10YR 5/4).

The uplands adjacent to the forested communities displayed no evidence of wetland hydrology. Vegetation included sugar maple (Acer saccharum), multi-flora rose (Rosa multiflora), and wrinkled goldenrod. The upland soils consisted of disturbed gravelly silt loam with a gravel restrictive layer 4 inches below the surface. The soils were very dark gray (10YR 3/1) and were not indicative of hydric conditions.

Scrub-shrub Wetlands – A total of 17 wetlands within the Study Area were found to contain scrub-shrub vegetation. Scrub-shrub wetlands were characterized by dense stands of shrub species less than 20 feet tall, including silky dogwood, black willow (Salix nigra), other willow species, and pin oak (Quercus palustris). Herbaceous vegetation in these areas included purple loosestrife, sensitive fern, jewel weed (Impatiens capensis), and sedge (Carex sp.). Soils sampled within scrub-shrub wetlands were characterized by low chroma black matrix color (10YR 2/1), with depleted matrix (F3) and redox dark surface (F6). Soil textures in the scrub-shrub wetlands are generally characterized silt or clay loam. Evidence of wetland hydrology included surface water, saturated soils, water marks, and FAC neutral test. The scrub-shrub adjacent uplands displayed no evidence of wetland hydrology. Vegetation observed in these uplands included little false bluestem (Schizachrium scoparium), Kentucky bluegrass (Poa pratensis), Canadian and wrinkle-leaf goldenrod, multiflora rose, spotted knapweed, sticky willy, wild carrot, blackberry (Rubus sp.) red maple, sugar maple, eastern hop-hornbeam (Ostrya virginiana). Upland brown (10YR 3/2, 10YR 4/3) silt loam soils and displayed no evidence of hydric conditions. The gravel restrictive layer was located 2 to 3 inches from the surface.

Open Water Wetlands – Wetland 3J included areas of open water that were surrounded by emergent wetlands. The open water portion of Wetland 3J was between 1 to 3 feet deep and was covered by duckweed (Lemna minor). The open water areas of Wetland 3J appear to be the result of past disturbances and were determined to be manmade ponds.

Overall, EDR ecologists identified 63 wetlands and 31 streams within the Study Area for the proposed AHET. The identified wetlands include emergent, scrub-shrub, open water and forested wetland communities. Many of the wetlands showed strong evidence of historically disturbed soils, due to the Study Area location on an abandoned trolley bed and within a power line right of way.
All but three of the wetlands and streams appear to have surface water connections to other WOUS, and therefore, are likely to be considered jurisdictional by the USACE under Section 404 of the Clean Water Act. Ten wetlands appear to have a connection to or are located in close proximity to mapped NYSDEC freshwater wetlands and are therefore likely to fall under state jurisdiction pursuant to Article 24. The study area appears to intersect the 100-foot adjacent areas of seven NYSDEC wetlands at 12 distinct locations which will fall under state jurisdiction. There are seven NYSDEC-protected streams located in the Study Area, and therefore Article 15 permitting may be required. However, final determination of jurisdictional status of waters delineated within the Study Area must be made by the USACE and NYSDEC.

Impacts to delineated wetlands within the corridor have been estimated based on a typical trail width required for standards to be met for pedestrian and bicycle use. For a 25-foot-wide corridor running the 36-mile distance of the Study Area, it is estimated that there would be 1.90 acres of direct permanent impact to wetlands. These impacts would primarily result from grading and filling in preparation for final path construction. There would be additional estimated permanent impacts within the 100-foot regulated adjacent area surrounding state wetlands of 7.70 acres. Although typically less significant than direct loss of wetland acreage, these adjacent area impacts would be quantified and included in any permit coverage pursued for the project. There will be various temporary impacts throughout the project associated with access, staging, and construction activities that would also be quantified and reported to regulatory agencies. These temporary impacts would be reversed and restored once construction is complete.

Wetland mitigation will be determined through the permitting process and as final acreage impacts are determined during final design. There are opportunities for innovative off-site solutions to compensating for wetland loss. These include mitigating for impacts to wetlands in the form of land improvements such as habitat enhancements, wetland or aquatic habitat restoration, land preservation, wetland creation, or financial support of off-site conservation measures and purchases. If unique opportunities for cooperation between state or federal agencies, land conservation agencies, or non-governmental organizations do not materialize, then traditional methods of mitigation such as creation of new wetland acreage will be pursued. Replacement ratios will be determined during the final permitting process with the regulatory agencies. Wetland areas suffering temporary impacts would be fully restored and re-established to pre-impact condition through grading and seeding. These temporary impacts would also be addressed during permitting.
### Table 4.2.1.2: Delineated Wetland and Stream Resources Within the Study Area

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### Appendix A: Figure 5 - Sheet #

#### Table: Wetland Acreage and Stream Class

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### 4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

#### Delineation ID | Latitude of Centroid | Longitude of Centroid | Wetland Present | Wetland Type Acreage Within Wetland Study Area | Total Wetland Acreage Within Wetland Study Area | Stream Present | Stream Type | Linear Feet of Stream Within Study Area | NYSDEC Stream Class | Federal Jurisdiction | State Jurisdiction | Appendix A: Figure 5 - Sheet #
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
3H | 42.3546 | -73.74 | Yes | -- | -- | 0.005 | -- | 0.005 | -- | -- | -- | -- | Yes | --
3I | 42.3545 | -73.7398 | Yes | -- | -- | 0.04 | -- | 0.04 | Yes | R2 | 40 | C | Yes | --
3J | 42.3528 | -73.7402 | Yes | -- | 0.07 | 0.68 | -- | 0.75 | -- | -- | -- | -- | Yes | --
3K | 42.3442 | -73.7441 | Yes | -- | -- | 0.07 | -- | 0.07 | -- | -- | -- | -- | Yes | --
3L | 42.3428 | -73.7449 | Yes | -- | -- | 0.05 | -- | 0.05 | -- | -- | -- | -- | Yes | --
3M | 42.3391 | -73.7461 | -- | -- | 0.77 | -- | 0.77 | -- | -- | -- | -- | -- | Yes | --
3N | 42.3336 | -73.7459 | Yes | -- | -- | 0.06 | -- | 0.06 | -- | -- | -- | -- | Yes | --
3O | 42.3351 | -73.7458 | Yes | -- | -- | 0.25 | -- | 0.25 | Yes | R4 | 75 | C | Yes | --
4A | 42.2843 | -73.7436 | Yes | -- | -- | 0.03 | -- | 0.03 | -- | -- | -- | -- | Yes | --
4B | 42.2841 | -73.7437 | Yes | -- | -- | 0.03 | -- | 0.03 | -- | -- | -- | -- | Yes | --
4C | 42.2836 | -73.7457 | Yes | -- | -- | 0.16 | -- | 0.16 | -- | -- | -- | -- | Yes | --
4E | 42.2818 | -73.7472 | Yes | -- | -- | 0.01 | -- | 0.01 | Yes | R4 | 29 | C | Yes | --
4G | 42.2806 | -73.747 | Yes | -- | -- | 0.01 | -- | 0.01 | -- | -- | -- | -- | -- | --
4H | 42.2765 | -73.7527 | Yes | -- | -- | 0.02 | -- | 0.02 | -- | -- | -- | -- | -- | --
4I | 42.2694 | -73.7604 | Yes | -- | -- | 0.01 | -- | 0.01 | -- | -- | -- | -- | Yes | --
4J | 42.2686 | -73.7608 | Yes | -- | -- | 0.06 | -- | 0.06 | -- | -- | -- | -- | Yes | --
4M | 42.5793 | -73.6805 | Yes | -- | -- | 0.005 | -- | 0.005 | -- | -- | -- | -- | Yes | --

1 Field ID assigned by EDR.
2 Wetland community types are based upon the Cowardin et al. (1979) classification system: PSS = Palustrine Scrub-Shrub, PEM = Palustrine Emergent, POW = Palustrine Open Water, and PFO = Palustrine Forested.
3 Stream types are based upon the Cowardin et al. (1979) classification system: R3 = Riverine Upper Perennial.
4 Based on visual observation of hydrologic connectivity in the field and review of available spatial data. Final jurisdictional determination to be made by USACE.
5 Based on existing NYSDEC mapping of freshwater wetlands and streams.
6 Based on visual observation of hydrologic connectivity in the field and review of available spatial data. Final jurisdictional determination to be made by USACE.
7 Based on existing NYSDEC mapping of freshwater wetlands and streams. Final determination to be made by NYSDEC.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer
There are no State or Federal wetlands mapped or delineated within the Study Area within the City of Rensselaer.

Town of East Greenbush
Within the Town of East Greenbush, there is one delineated wetland (Wetland 2R) within the project corridor. This is a very small wetland at 0.0001 acres in size. It is expected that there will be no impact to this wetland at this time.

Town of Schodack
Potential Impacts:
The Town of Schodack has numerous wetlands within the Study Area. There are 16 wetlands totaling 1.108 acres within the trail corridor. Six of these wetlands may be impacted totaling an estimated 0.35 acres of impacts at this time.
Mitigation Measures:
All wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of off-site wetland protection and restoration activities.

Village of Nassau
There are no State or Federal wetlands mapped or delineated within the Study Area within the Village of Nassau.

Town of Nassau
Potential Impacts:
There are five separate wetlands found along the trail corridor within the Town of Nassau. These wetlands total 0.2 acres of Town land in the Study Area. There will be impacts to one of these wetlands for an estimated total of 0.0001 acres of impact.
Mitigation Measures:
Wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of wetland protection and restoration activities.

Town of Chatham
Wetland P is the only delineated wetland found along the trail corridor in the Town of Chatham. It encompasses 0.02 acres of land in the Study Area. Impacts to this wetland are not expected at this time.

Town of Kinderhook
Potential Impacts:
There is a total of 0.766 acres of wetland within the Study Area in the Town of Kinderhook. This area is divided between ten separate wetland areas. Four of these wetlands are proposed to be impacted at this time for an estimated total of 0.11 acres of impact.
Mitigation Measures:

Wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of off-site wetland protection and restoration activities.

Village of Valatie

Potential Impacts:
Within the Village of Valatie, there is one delineated wetland (Wetland Z) within the project corridor. It is expected that impacts to this wetland will be approximately 0.08 acres at this time.

Mitigation Measures:

All wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of off-site wetland protection and restoration activities.

Village of Kinderhook

There are no State or Federal wetlands mapped or delineated within the Study Area within the Village of Kinderhook.

Town of Stuyvesant

Potential Impacts:
The Town of Stuyvesant contains four different delineated wetlands within the Study Area. These wetlands combined total 0.85 acres. Impacts to these wetlands are estimated at 0.38 acres this time.

Mitigation Measures:

All wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of off-site wetland protection and restoration activities.

Town of Stockport

Potential Impacts:
The Town of Stockport supports the highest number of wetlands within the trail corridor with a total of 18 separate wetlands along the Study Area. These wetlands comprise a total of 2.26 acres of land. Impacts are anticipated at 16 of these wetlands, totaling approximately 0.92 acres at this time.

Mitigation Measures:

All wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of wetland protection and restoration activities.

Town of Greenport

Potential Impacts:
Five wetlands have been delineated within the Town of Greenport. These wetlands total 0.11 acres. Impacts to one of
these wetlands are expected to total 0.05 acres.

**Mitigation Measures:**

Wetland impacts associated with the project and permitted through state and federal regulatory agencies will be mitigated in a way determined through the permitting process. Innovative off-site mitigation solutions will be developed such as wetland habitat enhancements, wetland restoration, public access or educational opportunities related to wetlands, preservation of wetland acreage, or funding of off-site wetland protection and restoration activities.

### 4.2.2 Surface Waterbodies

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or ‘scope’ of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments, and/or affect the water quality of any water bodies within or downstream of the site. The following section evaluates the extent of these potential impacts and provides mitigation measures where necessary.

**Environmental Setting**

There are numerous drainageways, streams, and watercourses that are near or bisect the trail corridor. This section will focus on the physical and spatial aspects of these surface water resources that may be impacted by the project. This information will support permit applications to the United States Army Corps of Engineers (USACE) and/or the New York State Department of Environmental Conservation (NYSDEC), as well as support other impact evaluations conducted for the project (e.g., State Environmental Quality Review Act).

In support of the Project, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) identified watercourses within or adjacent to the proposed AHET corridor. During the fall of 2017, these waterways were identified within a 36-mile by 60-foot wide corridor in which project construction may be required (i.e., the anticipated limit of disturbance), hereafter known as the Study Area.

The Study Area is located in the Lower Hudson drainage basin, which is part of USGS Hydrologic Unit 2020006. The majority of surface hydrology within the Study Area is generated by precipitation and surface water run-off from adjacent land. Total annual precipitation (from 1981 to 2010) averages 40.63 inches at the nearby Valatie, New York weather station (NOAA, 2017). The Study Area sits in the Lower Hudson River Drainage Basin, which drains into The Hudson River (NYSDEC, 2017).

**Table 4.2.2.1: Mapped NYSDEC Streams Within the Study Area**

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### 4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

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The Study Area crosses the Moordener Kill once in the north of the Study Area, the Valatie Kill five times, Kinderhook Creek once, and Claverack Creek once, towards the south of the Study Area. The Valatie Kill and Kinderhook Creek are the dominant hydrological features in the Study area. The Valatie Kill flows into Kinderhook Lake and is a tributary to Kinderhook Creek. Both the Valatie Kill and Kinderhook Creek flow north to south, with Kinderhook Creek eventually draining into the Hudson River just west of the hamlet of Stockport. Based on available NYSDEC stream classification mapping, the Study Area includes 10 mapped unprotected Class C streams (including unnamed streams which flow into Class C streams) and 6 protected Class C(T) or Class C(TS) streams. (See Table 4.2.2.1 and Appendix 4.2.2).

Both Nassau Lake, in the Town of Nassau, and Kinderhook Lake, in the Town of Valatie border the Study Area. These lakes lie in populated areas and are mostly surrounded by residences. There are also small farm ponds/open water areas adjacent to and occasionally within the Study Area. They are found in open field settings, adjacent to farms or barns, or within wetlands.

Streams within the Study Area were generally located within emergent and scrub-shrub areas and had a gentle to moderate gradient of 0 to 3 percent. Substrates most commonly consisted of bedrock, cobbles, gravel, silt, and sand based on visual observations conducted during the field delineations. The streams had well defined banks, exhibit high-water marks, and were often connected to other water resources via culverts. Several of the streams had concrete abutments and remnants of old bridges present along the banks. Observed water depths were between 6 inches to approximately 5 feet.

The largest streams within the Study Area include the Valatie Kill, Moordener Kill, Kinderhook Creek and Claverack Creek. The Valatie Kill crosses the Study Area a total of five times. Several of these crossings are bridged however, there are areas where remnant bridge abutment/infrastructure remains. In the widest areas the Valatie Kill has channel widths of over 100 feet and is generally bounded by steep banks.

As indicated in Table 4.2.2.2, through their field investigations, EDR ecologists identified a total of 31 streams within the Study Area, of which 22 were permanent and 9 were ephemeral. A total of 6 streams are directly associated with or adjacent to delineated wetland complexes.
### 4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

#### Table 4.2.2.2: Delineated Stream Resources Within the Study Area

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## 4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

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1 Field ID assigned by EDR.
2 Wetland community types are based upon the Cowardin et al. (1979) classification system: PSS = Palustrine Scrub-Shrub, PEM = Palustrine Emergent, POW = Palustrine Open Water, and PFO = Palustrine Forested.
3 Stream types are based upon the Cowardin et al. (1979) classification system: R3 = Riverine Upper Perennial.
4 Based on visual observation of hydrologic connectivity in the field and review of available spatial data. Final jurisdictional determination to be made by USACE.
5 Based on existing NYSDEC mapping of freshwater wetlands and streams.
6 Based on visual observation of hydrologic connectivity in the field and review of available spatial data. Final jurisdictional determination to be made by the USACE.
7 Based on existing NYSDEC mapping of freshwater wetlands and streams. Final determination to be made by NYSDEC.
Out of the 31 streams that EDR ecologists identified within the Study Area, seven are mapped and classified as NYSDEC-protected streams. These streams are classified as either C(T) or C(Ts) and are therefore subject to Article 15 permitting through the NYSDEC. These stream support trout or trout spawning. Final determination of jurisdictional status of waters delineated within the Study Area must be made by the USACE and NYSDEC.

Impacts to these regulated streams will be determined once final design at the waterway crossings is established and any impact below ordinary high water or within the bed and banks of these streams is evaluated. Most stream crossings will require installation of new or replacement culverts or bridge spans, therefore regulatory agency conditions requiring adequate flow passage and aquatic life movement will need to be designed for. These design features may include oversizing passage widths and embedding structures and providing natural stream bottom materials. These actions will assure that project activities in-stream abide by permit requirements and will act as mitigative measures in response to any temporary or permanent impacts to water resources during construction. Standard erosion and sediment controls and construction best practices put in place during constriction will assure that water quality standards are met or exceeded for the duration of the project.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer
Potential Impacts
In the City of Rensselaer there is one classification C stream crossing. Although there are no anticipated impacts to this crossing, and this is an unregulated NYSDEC stream, efforts will be made to minimize and avoid degradation of water quality or fish and wildlife habitat during construction.

Mitigation Measures
No permitting or coordination is required with the Army Corps of Engineers. Since there are no impacts or involvement with waters in the City, there is no mitigation required.

Town of East Greenbush
Potential Impacts
Within the Town of East Greenbush, the trail crosses the Mill Creek and its tributaries, a class C stream, three times. It is estimated that there will be 150 linear feet of impacts to this waterway due to installation of culverts at these trail crossings.

Mitigation Measures
Although this is an unregulated NYSDEC stream, efforts will be made to minimize and avoid degradation of water quality or fish and wildlife habitat at the crossing sites. Work below the ordinary high-water mark levels or within the bed or banks of the stream will require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same permitting process as wetland impacts and may include, as necessary and feasible, imbedding crossing structures, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to riparian or wetland habitat.

Town of Schodack
Potential Impacts
Within the Town of Schodack, the trail crosses over three classification C streams, one classification C(T) stream, and one classification C(TS) stream. One of the crossings is the location of Bridge 1, which will span the Valatie Kill, a classification C stream. It is estimated that there will be a total of 200 linear feet of impacts to the waterways within the Town of Schodack due to the installation of four culverts. There will be no water impacts at the bridge crossing.
Mitigation Measures

Since some of these are regulated trout streams, permitting with the NYSDEC will be required and discussions with resource staff will assist in minimizing and avoiding degradation of water quality or fish and wildlife habitat. Work below the ordinary high-water mark levels or within the bed or banks of the streams will also require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same permitting process as project wetland impacts and may include, as necessary and feasible, imbedding crossing structures, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to wetland or riparian habitat.

Village of Nassau

Potential Impacts

Within the Village of Nassau there are two bridge crossings, Bridges 2 & 3, which both cross the classification C Valatie Kill. No impacts are anticipated at these bridge crossings.

Mitigation Measures

Although it is anticipated that there will be no impacts at these bridge crossings, and that this is an unregulated stream, efforts will still be made to minimize and avoid degradation of water quality or fish and wildlife habitat. No permitting or coordination is required with the Army Corps of Engineers regarding these sites. Since there are no impacts or involvement with waterways within the village, there is no mitigation required.

Town of Nassau

Potential Impacts

Bridge 4 falls within the Town of Nassau which will cross the classification C Valatie Kill. No impacts are anticipated at this bridge crossing.

Mitigation Measures

Although it is anticipated that there will be no water impact at this crossing, and that this is an unregulated NYSDEC stream, efforts will be made to minimize and avoid degradation of water quality or fish and wildlife habitat. No permitting or coordination is required with the Army Corps of Engineers. Since there are no impacts or involvement with waterways at the bridge crossing, there is no mitigation required.

Town of Chatham

Potential Impacts

Within the Town of Chatham, the trail will cross the Valatie Kill three times. One of the crossings is the location of Bridge 5 in which the stream classification is C(T). The other crossings are classification C(T) and C. It is estimated that there will be a total of 100 linear feet of impacts to the waterways within the Town of Chatham due to installation of culverts at two of these trail crossings. The crossing at the bridge 5 site will not include any impacts to waterways.

Mitigation Measures

Since one of these crossings is a NYSDEC regulated trout stream, permitting with the NYSDEC will be required and discussions with resource staff will assist in minimizing and avoiding degradation of water quality or fish and wildlife habitat. Work below ordinary high-water mark levels or within the bed or banks of the streams will also require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same joint permitting process as project wetland impacts and may include, as necessary and feasible, imbedding crossing structures, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration of riparian or wetland habitat.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Town of Kinderhook

Potential Impacts
The trail has two stream crossings in the Town of Kinderhook that are both classification C streams. One of the crossings is the location of Bridge 6. There will be no water impacts at the bridge site. It is estimated that there will be 50 linear feet of impacts at the remaining waterway crossing due to the installation of a culvert.

Mitigation Measures
Although these are unregulated NYSDEC streams, efforts will be made to minimize and avoid degradation of water quality or fish and wildlife habitat at the crossings. Work below the ordinary high-water mark levels or within the bed or banks of the stream will require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same joint permitting process as project wetland impacts and may include, as necessary and feasible, imbedding the crossing structure, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to riparian or wetland habitat.

Village of Valatie

Potential Impacts
Within the Village of Valatie, the trail crosses over a classification C(T) stream, a tributary of the Kinderhook Creek. It is estimated that there will be 50 linear feet of impacts to the waterway due to the installation of a culvert at the trail crossing.

Mitigation Measures
Since this is a NYSDEC regulated trout stream, permitting with the NYSDEC will be required and discussions with resource staff will assist in minimizing and avoiding degradation of water quality or fish and wildlife habitat. Work below ordinary high-water mark levels or within the bed or banks of the stream will require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same joint permitting process as wetland impacts and may include, as necessary and feasible, imbedding the crossing structure, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to riparian or wetland habitat.

Village of Kinderhook

Potential Impacts
Within the Village of Kinderhook, the trail does not traverse any classified streams.

Mitigation Measures
No mitigative measures are required.

Town of Stuyvesant

Potential Impacts
In the Town of Stuyvesant, the trail crosses over a tributary of the Kinderhook Creek, a class C stream. It is estimated that there will be 50 linear feet of impacts to the waterway due to the installation of a culvert at the trail crossing.

Mitigation Measures
Although this is an unregulated NYSDEC stream, efforts will be made to minimize and avoid degradation of water quality or fish and wildlife habitat during construction. Work below ordinary high-water mark levels or within the bed or banks of the stream will require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same joint permitting process as wetland impacts and may include, as necessary and feasible, imbedding crossing structures, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to riparian or wetland habitat.
reaches, or off-site enhancements or restoration to riparian or wetland habitat.

**Town of Stockport**

**Potential Impacts**

Within the Town of Stockport, the trail crosses over two classification C streams, and a classification C(T) stream. It is estimated that there will be a total of 150 linear feet of impacts to the waterways within the Town of East Stockport due to the installation of three culverts.

**Mitigation Measures**

Since one of the crossings is a regulated trout stream, permitting with the NYSDEC will be required and discussions with resource staff will assist in minimizing and avoiding degradation of water quality or fish and wildlife habitat. Work below the ordinary high-water mark levels or within the bed or banks of the streams will also require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same permitting process as project wetland impacts and may include, as necessary and feasible, imbedding crossing structures, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to wetland or riparian habitat.

**Town of Greenport**

**Potential Impacts**

The trail within the Town of Greenport will cross over a tributary to the Claverack Creek, a class C stream. It is estimated that there will be a total of 50 linear feet of impacts to this waterway due to the installation of a culvert at the trail crossing.

**Mitigation Measures**

Although this is unregulated NYSDEC streams, efforts will be made to minimize and avoid degradation of water quality or fish and wildlife habitat at the crossing. Work below the ordinary high-water mark levels or within the bed or banks of the stream will require coordination and permitting with the Army Corps of Engineers. Mitigative measures for waterway impacts will be coordinated in the same joint permitting process as project wetland impacts and may include, as necessary and feasible, imbedding the crossing structure, providing natural streambed material, restoring impacted stream reaches, or off-site enhancements or restoration to riparian or wetland habitat.

### 4.2.3 Floodplains

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially result in development on lands subject to flooding (i.e., within a 100-year or 500-year floodplain), and/or require, modification of existing drainage patterns. The following section evaluates the extent of these potential impacts and provides mitigation measures where necessary.

**Environmental Setting**

The proposed AHET Trail will require the construction of six (6) bridges. Bridge 1 is proposed to carry the AHET Trail over the Moordener Kill in the Town of Schodack, Bridges 2, 3 and 4 are proposed to carry the AHET Trail over the Valatie Kill in the Village of Nassau (Bridges 2 and 3) and the Town of Nassau (Bridge 4), Bridge 5 is proposed to carry the AHET Trail over the Valatie Kill in the Town of Chatham, and Bridge 6 is proposed to carry the AHET Trail over the Valatie Kill in the Town of Kinderhook. (See Appendix 4.2.3, Figures 4.2.3.1 – 4.2.3.9). Since these proposed bridges will be spanning the known 100 yr. storm event floodplain of the Moordener Kill and Valatie Kill, it is necessary to analyze the existing and
proposed hydraulic (water movement) conditions to determine if there will be any impact to the current water surface elevation. The outcome of the hydraulic analysis for each of the proposed bridges is described below as well as any environmental impacts and mitigation measures.

The hydraulic analysis for each of the bridge crossing locations have been evaluated following the guidelines outlined in the NYSDEC Floodplain Development and Floodway Guidance. The Floodplain Development and Floodway Guidance defines the differences in the two-tiered system of technical evaluation for proposed development in the floodplain. All proposed floodplain development must meet the “No adverse effect” criteria (less than 1-foot rise), while proposed floodway development must also meet the “no-rise” criteria (0.00-feet difference). The proposed trail improvements within the Moordener Kill and Valatie Kill floodplains are outside of the floodway and fall under the “No adverse effect” guidance.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer
There will be no impact to the existing floodplains in the City of Rensselaer. (See Figure 4.2.3.1).

Town of East Greenbush
There will be no impact to the existing floodplains in the Town of East Greenbush. (See Figure 4.2.3.2).

Town of Schodack
As part of the trail design, a bridge (Bridge 1) is proposed to carry the Albany-Hudson Electric Trail (AHET) over the Moordener Kill in the Town of Schodack. The construction of this bridge (Bridge 1, see Figure 4.2.3.3) is required to allow the trail to follow the National Grid Right of Way and the original trolley line. Since Bridge 1 will be spanning the known 100 yr. storm event floodplain of the Moordener Kill, it is necessary to analyze the existing and proposed hydraulic (water movement) conditions to determine if there will be any impact to the current water surface elevation. The 100-year storm event is the largest storm (with heaviest rainfall) anticipated to occur once every 100 years, meaning there is a 1% chance of this storm occurring any given year. A floodplain is the area of land surrounding a stream or river that is expected to be flooded during a storm event. The 100-year floodplain is the area of land expected to be inundated with water during the 100-year storm event.

The hydraulic analysis evaluated the 100-yr. design storm flow of the Moordener Kill passing through the floodplain at the Bridge 1 location. The United States Geological Survey (USGS) StreamStats web application was utilized to determine that the Bridge 1 location has a 9.14 square mile watershed (the upstream area from a point that flowing water is expected to collect from). The StreamStats analysis also calculated the 100-year flow of 999 cubic feet per second (CFS) at the Bridge 1 location. The data collected from the USGS web application is essential to accurately simulate the existing conditions of the crossing.

To generate the most accurate results, the Hydrologic Engineering Centers River Analysis System (HEC-RAS) software was used to model the existing and proposed floodplain condition scenarios. The hydraulic models were created to simulate the actual geometry of the existing conditions at, upstream and downstream of the proposed Bridge 1 location, and of the proposed post construction conditions. The floodplain analysis of the existing conditions predicts that, at the proposed Bridge 1 location but without a bridge, the design storm water surface elevation would be 418.08 ft. The floodplain analysis predicts that at the Bridge 1 location, the water surface elevation will be 418.07 ft. once Bridge 1 is built.

In summary, the analyses of both the pre and post development of the Bridge 1 location within the Town of Schodack predicts no adverse effects to the upstream water surface elevation during the 100-yr. design storm event. ‘No adverse effects’ refers to the New York State Department of Environmental Conservation (NYSDEC) stipulation that any new development will not result in more than one-foot rise in the base flood elevation and that whatever rise less than one
foot will not cause any previously-unaffected structures to be impacted by the new base flood elevation. This is detailed on the NYSDEC web page entitled “Floodplain Development & Floodway Guidance.” Our results indicate that the placement of Bridge 1 over the Moordener Kill in the Town of Schodack will not negatively impact flooding conditions during heavy rains. Please see the **Appendix 4.2.3** and Floodplain **Figure 4.2.3.1 - 4.2.3.9** for details regarding the input and output parameters for the analyses.

**Town & Village of Nassau**

As part of the trail design, three bridges (Bridges 2, 3 and 4) are proposed to carry the Albany-Hudson Electric Trail (AHET) over the Valatie Kill in the Village of Nassau (Bridges 2 and 3) and the Town of Nassau (Bridge 4). The construction of these bridges (Bridges 2, 3 and 4, see **Figure 4.2.3.4**) is required to allow the trail to follow the National Grid Right of Way and the original trolley line. Since Bridges 2, 3 and 4 will be spanning the known 100 yr. storm event floodplain of the Valatie Kill, it is necessary to analyze the existing and proposed hydraulic (water movement) conditions to determine if there will be any impact to the current water surface elevation. The 100-year storm event is the largest storm (with heaviest rainfall) anticipated to occur once every 100 years, meaning there is a 1% chance of this storm occurring any given year. A floodplain is the area of land surrounding a stream or river that is expected to be flooded during a storm event. The 100-year floodplain is the area of land expected to be inundated with water during the 100-year storm event.

The hydraulic analysis evaluated the 100-yr. design storm flow of the Valatie Kill passing through the floodplain at the Bridge 2 location. The United States Geological Survey (USGS) StreamStats web application was utilized to determine that the Bridge 2 location has an 18.4 square mile watershed (the upstream area from a point that flowing water is expected to collect from). The StreamStats analysis also calculated the 100-year flow of 1,670 cubic feet per second (CFS) at the Bridge 2 location. The data collected from the USGS web application is essential to accurately simulate the existing conditions of the crossing.

This process was also used to determine that Bridge 3 has a watershed of 19.4 square miles and a 100-year flow of 1,710 CFS. StreamStats also shows that Bridge 4 has a watershed of 20.9 square miles and a 100-year flow of 1,840 CFS.

To generate the most accurate results, the Hydrologic Engineering Centers River Analysis System (HEC-RAS) software was used to model the existing and proposed floodplain condition scenarios. The hydraulic models were created to simulate the actual geometry of the existing conditions at, upstream and downstream of the proposed location, and of the proposed post construction conditions.

The floodplain analysis of the existing conditions predicts that, at the proposed Bridge 2 location but without a bridge, the design storm water surface elevation would be 389.19 ft. The floodplain analysis predicts that at the Bridge 2 location, the water surface elevation will be 389.20 ft. once Bridge 2 is built.

The floodplain analysis of the existing conditions predicts that, at the proposed Bridge 3 location but without a bridge, the design storm water surface elevation would be 378.85 ft. The floodplain analysis predicts that at the Bridge 3 location, the water surface elevation will be 378.84 ft. once Bridge 3 is built.

The floodplain analysis of the existing conditions predicts that, at the proposed Bridge 4 location but without a bridge, the design storm water surface elevation would be 366.41 ft. The floodplain analysis predicts that at the Bridge 4 location, the water surface elevation will be 366.41 ft. once Bridge 4 is built.

In summary, the analyses of both the pre and post development of the Bridges 2, 3 and 4 locations within the Village of Nassau and the Town of Nassau no adverse effects to the upstream water surface elevation during the 100-yr. design storm event. ‘No adverse effects’ refers to the New York State Department of Environmental Conservation (NYSDEC) stipulation that any new development will not result in more than one-foot rise in the base flood elevation and that whatever rise less than one-foot will not cause any previously-unaffected structures to be impacted by the new base flood elevation. This is detailed on the NYSDEC web page entitled “Floodplain Development & Floodway Guidance.” Our results indicate that the placement of Bridge 2 over the Valatie Kill in the Village of Nassau will not negatively impact
flooding conditions during heavy rains. Please see the Appendix 4.2.3 and Floodplain Figure 4.2.3.1 - 4.2.3.9 for details regarding the input and output parameters for the analyses.

Our results indicate that the placement of Bridge 3 over the Valatie Kill in the Village of Nassau will not negatively impact flooding conditions during heavy rains. Please see the Appendix 4.2.3 and Floodplain Figure 4.2.3.1 - 4.2.3.9 for details regarding the input and output parameters for the analyses.

Our results indicate that the placement of Bridge 4 over the Valatie Kill in the Town of Nassau will not negatively impact flooding conditions during heavy rains. Please see the Appendix 4.2.3 and Floodplain Figure 4.2.3.1 - 4.2.3.9 for details regarding the input and output parameters for the analyses.

Town of Chatham

As part of the trail design, a bridge (Bridge 5) is proposed to carry the Albany-Hudson Electric Trail (AHET) over the Valatie Kill in the Town of Chatham. The construction of this bridge (Bridge 5, see Figure 4.2.3.5) is required to allow the trail to follow the National Grid Right of Way and the original trolley line. Since Bridge 5 will be spanning the known 100-yr. storm event floodplain of the Valatie Kill, it is necessary to analyze the existing and proposed hydraulic (water movement) conditions to determine if there will be any impact to the current water surface elevation. The 100-year storm event is the largest storm (with heaviest rainfall) anticipated to occur once every 100 years, meaning there is a 1% chance of this storm occurring any given year. A floodplain is the area of land surrounding a stream or river that is expected to be flooded during a storm event. The 100-year floodplain is the area of land expected to be inundated with water during the 100-year storm event.

The hydraulic analysis evaluated the 100-yr. design storm flow of the Valatie Kill passing through the floodplain at the Bridge 2 location. The United States Geological Survey (USGS) StreamStats web application was utilized to determine that the Bridge 5 location has a 31.7 square mile watershed (the upstream area from a point that flowing water is expected to collect from). The StreamStats analysis also calculated the 100-year flow of 2,450 cubic feet per second (CFS) at the Bridge 5 location. The data collected from the USGS web application is essential to accurately simulate the existing conditions of the crossing.

To generate the most accurate results, the Hydrologic Engineering Centers River Analysis System (HEC-RAS) software was used to model the existing and proposed floodplain condition scenarios. The hydraulic models were created to simulate the actual geometry of the existing conditions at, upstream and downstream of the proposed Bridge 4 location, and of the proposed post construction conditions. The floodplain analysis of the existing conditions predicts that, at the proposed Bridge 5 location but without a bridge, the design storm water surface elevation would be 306.55 ft. The floodplain analysis predicts that at the Bridge 5 location, the water surface elevation will be 306.54 ft. once Bridge 5 is built.

In summary, the analyses of both the pre and post development of the Bridge 5 location within the Town of Chatham no adverse effects to the upstream water surface elevation during the 100-yr. design storm event. ‘No adverse effects’ refers to the New York State Department of Environmental Conservation (NYSDEC) stipulation that any new development will not result in more than one-foot rise in the base flood elevation and that whatever rise less than one-foot will not cause any previously-unaffectected structures to be impacted by the new base flood elevation. This is detailed on the NYSDEC web page entitled “Floodplain Development & Floodway Guidance.” Our results indicate that the placement of Bridge 5 over the Valatie Kill in the Town of Chatham will not negatively impact flooding conditions during heavy rains. Please see the Appendix 4.2.3 and Floodplain Figure 4.2.3.1 - 4.2.3.9 for details regarding the input and output parameters for the analyses.

Town of Kinderhook, Villages of Valatie & Kinderhook

As part of the trail design, a bridge (Bridge 6) is proposed to carry the Albany-Hudson Electric Trail (AHET) over the Valatie Kill in the Town of Kinderhook. The construction of this bridge (Bridge 6, see Figure 4.2.3.6) is required to allow the trail to follow the National Grid Right of Way and the original trolley line. Since Bridge 6 will be spanning the known 100 yr.
storm event floodplain of the Valatie Kill, it is necessary to analyze the existing and proposed hydraulic (water movement) conditions to determine if there will be any impact to the current water surface elevation. The 100-year storm event is the largest storm (with heaviest rainfall) anticipated to occur once every 100 years, meaning there is a 1% chance of this storm occurring any given year. A floodplain is the area of land surrounding a stream or river that is expected to be flooded during a storm event. The 100-year floodplain is the area of land expected to be inundated with water during the 100-year storm event.

The hydraulic analysis evaluated the 100-yr. design storm flow of the Valatie Kill passing through the floodplain at the Bridge 2 location. The United States Geological Survey (USGS) StreamStats web application was utilized to determine that the Bridge 6 location has a 39.4 square mile watershed (the upstream area from a point that flowing water is expected to collect from). The StreamStats analysis also calculated the 100-year flow of 2,490 cubic feet per second (CFS) at the Bridge 6 location. The data collected from the USGS web application is essential to accurately simulate the existing conditions of the crossing.

To generate the most accurate results, the Hydrologic Engineering Centers River Analysis System (HEC-RAS) software was used to model the existing and proposed floodplain condition scenarios. The hydraulic models were created to simulate the actual geometry of the existing conditions at, upstream and downstream of the proposed Bridge 4 location, and of the proposed post construction conditions. The floodplain analysis of the existing conditions predicts that, at the proposed Bridge 6 location but without a bridge, the design storm water surface elevation would be 261.72 ft. The floodplain analysis predicts that at the Bridge 6 location, the water surface elevation will be 261.97 ft. once Bridge 6 is built.

In summary, the analyses of both the pre and post development of the Bridge 6 location within the Town of Kinderhook predicts no adverse effects to the upstream water surface elevation during the 100-yr. design storm event. ‘No adverse effects’ refers to the New York State Department of Environmental Conservation (NYSDEC) stipulation that any new development will not result in more than one-foot rise in the base flood elevation and that whatever rise less than one-foot will not cause any previously-unaffected structures to be impacted by the new base flood elevation. This is detailed on the NYSDEC web page entitled “Floodplain Development & Floodway Guidance.” Our results indicate that the placement of Bridge 6 over the Valatie Kill in the Town of Kinderhook will not negatively impact flooding conditions during heavy rains. Please see the Appendix 4.2.3 and Floodplain Figure 4.2.3.1 - 4.2.3.9 for details regarding the input and output parameters for the analyses.

**Town of Stuyvesant**

There will be no impact to the existing floodplains in the Town of Stuyvesant. (See Figure 4.2.3.7).

**Town of Stockport**

There will be no impact to the existing floodplains in the Town of Stockport. (See Figure 4.2.3.8).

**Town of Greenport**

There will be no impact to the existing floodplains in the Town of Greenport. (See Figure 4.2.3.9).

4.3 Plants and Animals

4.3.1 Threatened, Endangered, and/or Species of Special Concern

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially result in impacts to habitat used by any rare, threatened, endangered species, species of special concern, or conservation need as listed by
New York State or the Federal government. The following section evaluates the extent of these potential impacts and provides mitigation measures where necessary.

**Environmental Setting**

In support of the Project, the consulting firm Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) conducted reconnaissance-level ecological assessments within the proposed AHET corridor. Specifically, the analysis considered a 36-mile by 60-foot wide corridor in which project construction may be required, (i.e., the anticipated limit of disturbance), hereafter known as the Study Area.

The Study Area is located within the Hudson-Mohawk Valley physiographic province of New York State (NYSDOT, 2013). The Study Area is within the eastern subsection of the Hudson-Mohawk Valley. This section is mainly composed of glacial till, laid down during the last continental glaciation, some 20,000 to 13,000 years ago (USDA 1988). Soils within the region formed from parent material that was deposited as a result of this glaciation.

Elevations within the Study Area range from approximately 30 to 550 feet above mean sea level. Terrain in the Study Area consists of gently rolling hills throughout. As the Study Area mostly follows an old electric trolley line, the terrain is generally flat or gently sloped, with little to no severe elevation changes. Along the trail right of way, National Grid periodically clears vegetation to prevent trees from growing near power lines and infrastructure, and to allow access for maintenance vehicles. As such, much of the right of way is comprised of shrublands and grassy areas maintained by National Grid’s brushhogging and tree-cutting activities. Land use near the Study Area (e.g. adjacent to National Grid’s ROW) is primarily residential, regenerating shrublands and woodlands, agricultural, or formerly agricultural and no longer maintained.

Both Nassau Lake, in the Town of Nassau, and Kinderhook Lake, in the Town of Valatie border the Study Area. These lakes lie in developed areas and are mostly surrounded by residences. There are also small farm ponds/open water areas adjacent to and occasionally within the Study Area. They are found in open field settings, adjacent to farms or barns, or within wetlands. Several streams and waterways bisect the Study Area, and numerous wetlands of varying size and vegetative composition occur along the trail corridor.

**Federal & State Listed Species**

**Federally-Listed Species**

EDR conducted a web-based review of the United States Fish and Wildlife Service (USFWS) IPaC decision support system for an indication of federally-listed rare, threatened, or endangered (RTE) species at the Study Area. These results indicate that the following federal species are potentially located near the study area:

- Indiana bat (Myotis sodalis) - endangered
- Northern long-eared bat (Myotis septentrionalis) – threatened
- Bog Turtle (Clemmys muhlenbergii) - threatened

**Indiana Bat**

The Indiana bat (Myotis sodalis) is a state-listed and federally-listed endangered species. Indiana bats are known to roost in hardwood forests throughout most of their range in the summer months; in the winter months, they hibernate within caves or crevices in large population densities. With the onset of the White Nose Syndrome disease, the Indiana bat has been critically threatened (USFWS, 2012). Compounding the adverse effects of this disease, human encroachment into old growth and hardwood forests has severely crippled local populations.

Indiana bats have not been observed above 900 feet above mean sea level AMSL in New York State (USFWS, 2012). This species is to be considered for any Project in New York State that is located at or below an elevation of 900 feet AMSL, and is within 40 miles of a known hibernaculum. Of importance are projects that involve clearing of trees greater than...
four inches in diameter at breast height (dbh), as these trees are suitable for a majority of roosting requirements by this species during summer months (USFWS, 2012).

**Northern Long-Eared Bat**

Northern long-eared bat (*Myotis septentrionalis*) is a state-listed and federally-listed threatened species. Habitat for the summer period may include day roosts in buildings, under tree bark or shutters, or caves during the night. In the winter, hibernation sites are often in mines or caves, and this species may co-hibernate with other similar bat species. As a result of this co-habititation behavior, White Nose Syndrome is becoming prevalent in this species and populations have become critically threatened. Compounding the adverse effects of this disease, human encroachment onto old growth and hardwood forests has also begun to adversely affect local populations. Foraging habitat includes forested hillsides and ridges and small ponds or streams (USFWS, 2016).

**Bog Turtle**

The USFWS lists the bog turtle as threatened, while New York State lists this species as endangered. Although historically known to be present in much of the state, extant populations of this species are concentrated in the Hudson River Valley (NYNHP, 2015d). Bog turtles are found in open early successional wetland habitats such as wet meadows, sedge meadows, or open calcareous fens, generally dominated by sedges and sphagnum moss. Habitat for this species typically includes cool, shallow, slow-moving water, deep, soft muck soils, and tussock-forming, low-lying herbaceous vegetation. Both nesting and hibernation occur within wetland habitat, with eggs often laid inside the upper part of an unshaded tussock (Gibbs et al., 2007).

**State-Listed Species**

In New York State, the New York Natural Heritage Program (NYNHP) tracks threatened, endangered, and special concern plant and animal species that occur throughout the state, as well as ecological communities that are unique or of special ecological significance. A written request for listed species documentation was sent to the NYNHP on January 5, 2018. A response from the NYNHP was received on January 12, 2018, which identified the presence of several rare or state-listed animals or plants, that may occur “at the project site, or in its vicinity”. According to the response, five state-listed endangered or threatened animal and plant species (northern harrier [*Circus cyaneus*], peregrine falcon [*Falco peregrinus*], shortnose sturgeon [*Acipenser brevirostrum*], Indiana bat, and Small’s knotweed [*Polygonum buxiforme*]) have been documented or historically documented either within or near the Study Area. Descriptions of their habitats are provided below.

**Northern Harrier**

The northern harrier is a raptor species that is currently listed as threatened in New York State and is the only threatened or endangered species that may potentially occur in the Study Area. Northern Harriers use a wide range of open grasslands, shrubland, and salt and freshwater marshes. They require vast expanses of relatively intact open habitat, and nest on the ground in grasslands or concealing areas of wetland vegetation. Based on the review of ecological communities within the Study Area, small sections of successional old fields are found in several places within the Study Area (See Table 4.3.1.1). However, successional old fields account for only 5% of the Study Area.

**Peregrine Falcon**

The peregrine falcon is a raptor currently listed as endangered in New York State. The peregrine falcon prefers open country including tundra, savannah, sea coast, high mountains, tall buildings and open forest. Nests are typically built on high ledges approximately 50 to 200 feet off the ground (NYSDEC, 2018). As mentioned in the above section, there are areas of open field in the Study Area. However, these fields are generally isolated, and ledges near 50 feet high within the Study Area are not present.
Shortnose Sturgeon

The shortnose sturgeon is a fish listed as endangered by both New York State. The shortnose sturgeon is only found in the lower portion of the Hudson River from the southern tip of Manhattan upriver to the Federal dam at Troy (NYSDEC, 2018). As the Study Area does not cross the Hudson River, shortnose sturgeon habitat is not considered present.

Indiana Bat

See the previous discussion under Federal Species.

Small’s Knotweed

Small’s knotweed is listed as an endangered plant by New York State, and is documented as historically occurring at the Study Area. Preferred habitat includes sandy beaches and soils. It has also been found on areas of disturbed, compacted soils such as railroad yards and old roads (NYNHP, 2017). Although the Study Area often follows old roads and trolley lines, Small’s knotweed has not been documented at the Study Area. The NYNHP response indicates an historic siting in 1979, and there is uncertainty regarding its continued presence.

Table 4.3.1.1. Ecological Communities in Study Area

<table>
<thead>
<tr>
<th>Community Type</th>
<th>Area within Study Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disturbed/Developed</td>
<td>242.4</td>
</tr>
<tr>
<td>Successional Old Field</td>
<td>14.5</td>
</tr>
<tr>
<td>Forest</td>
<td>8.2</td>
</tr>
<tr>
<td>Agricultural</td>
<td>6.6</td>
</tr>
<tr>
<td>Wetland</td>
<td>5.6</td>
</tr>
<tr>
<td>Stream</td>
<td>1.2</td>
</tr>
</tbody>
</table>

The remaining species in the NYNHP response letter were listed as being in the vicinity of the Study Area, and are not considered threatened or endangered, but are still of conservation concern to the State. Table 4.3.1.2 below lists the remaining identified species and provides additional information regarding potential habitat in the Study Area.

Table 4.3.1.2: NHP Identified Species in the Vicinity of the Study Area

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>NHP Location Response</th>
<th>Preferred Habitat</th>
<th>Typical Habitat Present in Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barn Owl (Tyto alba)</td>
<td>NY State Listed - Protected Bird Heritage Conservation Status – Critically Imperiled in NYS</td>
<td>Breeding – Greenport Center, at the southern end of the Study Area, 1983.</td>
<td>Typically found foraging in open country including grasslands, marshes, and agricultural areas. Barn owls nest in natural or man-made cavities such as platforms in barns/silos, abandoned house, churches, commercial industrial buildings. (NYNHP Tyto, 2017)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Species | Status | NHP Location Response | Preferred Habitat | Typical Habitat Present in Study Area
--- | --- | --- | --- | ---
Anadromous Fish Concentration Area | -- | Stockport Creek, along the western border of the Study Area in Columbiaville, no date. | Anadromous fish are species that migrate from marine waters to freshwater portions of rivers when they mature. They prefer freshwater tidal creeks, shallow subtidal areas, mudflats, and littoral zones. (NYSDEC Hudson, 2018) | No
Russet-tipped Clubtail Dragonfly (*Stylurus plagiatus*) | Heritage Conservation Status - Critically Imperiled in NYS | Stockport Creek and Kinderhook Creek, within 0.1-mile Study Area, just south of Van Buren Hill Road, 1996-07-07: The odonates were observed along a sandy shoreline vegetated with *Scirpus americanus* up to the high tide line and with coarse terrestrial weeds above that. | In and surrounding rivers, streams, and large lakes with sandy substrate. (NYNHP *Stylurus*, 2017) | No
Alewife Floater Freshwater Mussel (*Anodonta implicata*) | Heritage Conservation Status - Critically Imperiled in NYS | Hudson River Troy to Albany, within 0.1 mile of the northern tip of the Study Area, 1984-fa: A long stretch of a river. | Strong currents in the tidal Hudson River. (NYNHP *Anodonta*, 2017) | No

**Plant Communities**

**Ecological Communities**

Plant communities were mapped for all land within the Study Area using GIS software. Communities were classified according to the New York Natural Heritage Program’s Ecological Communities of New York State (Edinger et al., 2014). Disturbed/developed areas dominate the majority of the Study Area, with small areas of successional old field, agricultural land and forest scattered throughout. (See Table 4.3.1.1).

All of the major plant communities found within the current Study Area are common to developed areas in New York State. Descriptions of dominant vegetation within the Study Area are provided below for each of these ecological communities.

**Disturbed/Developed**

As described previously, most of the Study Area has had some level of disturbance/development. These
disturbed/developed areas are primarily the result of the construction and operation of the Albany-Hudson Trolley Corridor, routine maintenance within National Grid ROWs, and the previous construction of residential/commercial land uses within the Study Area. Typical disturbances contain remnants of the abandoned trolley rail bed, cleared access roads, houses and buildings, and paved roads/parking lots. The plant communities reflect a combination of those found in several “cultural communities” described the Ecological Communities of New York State (Edinger et al., 2014): unpaved road/path, railroad (although no railroad is present), construction/road maintenance spoils, and dredge spoils, with some elements of a disturbed successional old field. Common species in this area include common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), reed canarygrass (*Phalaris arundinacea*), Canada goldenrod (*Solidago canadensis*), wrinkle-leaf goldenrod (*Solidago rugosa*), narrow-leaf cattail (*Typha latifolia*), rice-cut grass (*Leersia oryzoides*), Canadian rush (*Juncus canadensis*), green ash (*Fraxinus pennsylvanica*), sugar maple (*Acer saccharum*), Japanese stiltgrass (*Microstegium vimineum*), shallow sedge (*Carex lurida*), sensitive fern (*Onoclea sensibilis*), silky dogwood (*Cornus ammomum*), and bedstraw (*Gallium molugo*).

### Successional Old Field

This community consists of an open meadow dominated by grasses and forbs and is found sparsely scattered throughout the Study Area. Successional old field communities are generally the result of abandoned farmed/developed areas that are mowed less than once a year. Common species in this cover type include purple loosestrife, manna grass (*Glyceria striata*), orchard grass (*Dactylis glomerata*), wrinkle-leaf goldenrod, deer tongue (*Dicanthellum clandestinum*), speckled alder (*Ulnus incana*), fox sedge (*Carex vulpinoidea*), green ash, tearthumb (*Persicaria sagittata*), moneywort (*Lysimachia nummularia*), silky dogwood (*Cornus ammomum*), and white clover (*Trifolium repens*).

### Forest

Forests within the Study Area primarily consist of upland tree communities with a canopy cover of 50% or more. As described in previous sections of this report, a majority of the Study Area consists of developed urban/suburban communities and existing cleared/maintained ROWs. As a result, forest areas and stands of trees account for approximately 3% of the Study Area. Below is a description of the tree communities that occur within the Study Area.

#### Maintained/Landscaped Trees

Most tree communities within the Study Area were observed on residential, recreational, or commercial lands. These properties were dominated by maintained/mowed lawn and were interspersed by natural or planted tree communities. Trees that were commonly seen in these settings included eastern white pine (*Pinus strobus*), Birch (*Betula spp.*), and maple (*Acer spp.*).

#### Successional Hardwoods

Successional hardwood tree communities are described by Edinger as hardwood or mixed forested areas that have been cleared or previously disturbed. Therefore, most large tree stands within the Study Area can be characterized as successional hardwoods. Tree species that were found in these areas were black cherry (*Prunus serotina*), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), quaking aspen (*Populus tremuloides*), silky dogwood, and green ash. Due to the previously disturbed nature of these forest communities, introduced/invasive species are commonly found within these areas and can sometimes become a more dominant species. Introduced species that were found within the successional hardwood communities were black locust (*Robinia pseudoacacia*) and common buckthorn (*Rhamnus cathartica*).

#### Forested Wetlands

One forested wetland was observed within the Study Area. As documented in the Wetland Section, Wetland O is located in the central section of the Study Area and consists of red maple, American elm (*Ulmus americana*), and green ash (*Fraxinus americana*) trees.
Agricultural

This community consists of cleared areas that are utilized for agricultural purposes. Two types of agricultural lands were observed during field investigations, croplands and pasturelands. Croplands found in these areas consist of planted row or field crops and commonly contain corn, potatoes, soybeans, wheat, alfalfa etc. Some cropland communities are maintained as hayfields and rotated to pasturelands. Pasturelands are typically cleared/maintained for grazing of livestock such as cows, horses, sheep or pigs. Common plant species that were found within this cover type were orchard grass (*Dactylis glomerata*), clover species (*Trifolium sp.*), purple loosestrife (*Lythrum salicaria*), common mullein (*Verbascum thaspus*), staghorn sumac (*Rhus typhina*) and fringed willow-herb (*Epilobium ciliatum*).

Wetland/Streams

In addition to the ecological communities described above, several wetlands and streams were delineated within the Study Area. EDR ecologists identified 63 wetlands and 31 streams within the Study Area, totaling 5.6 acres. Of the 5.6 acres, 4.4 acres consists of emergent vegetation, 1.1 acres is scrub shrub, 0.007 acre contains forested characteristics, and 0.07 acre of open water. Additional information on ecological characteristics pertaining to wetland/stream are described in the Wetland and Stream Delineation Report (EDR, 2018).

Invasive Species

An invasive species is an organism that has been purposefully or accidentally introduced outside its original geographic range and is able to proliferate and aggressively alter its new environment, potentially causing harm to the economy, environment, or human health. Invasive plant species spread in a number of different ways. Dispersal mechanisms include wind, water, wildlife, vegetative reproduction, and human activity. Populations of invasive species typically establish most readily in places where the ground has been disturbed, thereby exposing the soil. Construction of the proposed Project will include vegetation clearing and soil disturbance, which, along with other construction activities such as the movement of topsoil, fill, gravel, and construction equipment, will increase the risk for introduction and/or spread of invasive species in the Study Area.

To assist in documenting existing general ecological conditions in the Study Area, a non-native invasive terrestrial plant species list was created during EDR’s field investigations. Species considered invasive for the purposes of this survey consist of those listed as prohibited or regulated by the NYSDEC (2014). A total of 13 terrestrial invasive plant species were found within the Study Area. The 13 invasive plant species observed in the Study Area are listed below:

1. Autumn Olive – *Elaeagnus umbellata*
2. Black locust – *Robinia pseudoacacia*
3. Multiflora rose – *Rosa multiflora*
4. Purple loosestrife – *Lythrum salicaria*
5. Oriental bittersweet – *Celastrus orbiculatus*
6. Morrow’s honeysuckle – *Lonicera morrowii*
7. Japanese knotweed – *Reynoutria japonica*
8. Common reed – *Phragmites australis*
10. Garlic mustard – *Alliaria petiolata*
11. Canada thistle – *Cirsium arvense*
12. Common buckthorn – *Rhamnus cathartica*
13. Japanese barberry – *Berberis thunbergii*
Expected Impacts to Listed Plant and Animal Species

Given the disturbed nature of the National Grid right of way, construction of the Albany-Hudson Electric Trail is not expected to adversely impact any of the Threatened, Endangered or Special Concern species listed by the state or federal resource agencies. Mitigative measures are therefore not anticipated at this time. Tree cutting will be minimal and will occur during winter months thereby avoiding the time of year that protected bats may be present along the project corridor. Appropriate Avoidance and Minimization Measures such as this will be employed as necessary to avoid any adverse impact to protected wildlife, plant life, or habitat. Virtually all trail construction will occur on the old trolley line, National Grid’s power line right of way, and along the shoulders of public roadways. As such, pristine habitat or landscapes will not be adversely impacted.

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of East Greenbush
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Schodack
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Village of Nassau
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Nassau
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Chatham
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Kinderhook
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Village of Valatie
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Village of Kinderhook
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Stuyvesant
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Stockport
No impacts to Threatened or Endangered Species or habitat. No mitigation required.

Town of Greenport
No impacts to Threatened or Endangered Species or habitat. No mitigation required.
4.4 Agricultural Resources

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.). The following section evaluates the extent of these potential impacts and provides mitigation measures where necessary.

Environmental Setting

Farming is vital to the local economies of both Rensselaer and Columbia counties. According to the USDA Census of Agriculture, the two counties combined have nearly 1,000 farm enterprises, with $119 million in market value of products sold. The majority of the proposed AHET route (25.94 miles) follows the existing National Grid private right-of-way (ROW), an area that was previously constructed for rail (trolley) transportation in 1899, and since 1929, has been used for private utility transmission purposes. A smaller portion (10.02 miles) of the trail will follow the alignment of existing public roads. While there is no active farming being undertaken on any land that is proposed to be part of the trail, given the mostly rural nature of the trail route, small segments of the trail proposed to be built on National Grid’s property pass through or are adjacent to active farming operations that are within the New York State Agricultural District. (See Appendix 4.4). As shown in Figure 4.4.1 through 4.4.9 (Appendix 4.4), there are fifty-eight (58) parcels that are adjacent to the proposed trail alignment which may contain active farming operations and are within the New York State Agricultural District. This section identifies the areas of the farmland within New York State Agricultural District that may be impacted by the proposed trail. There are no Agricultural District parcels adjacent to the proposed trail route within the City of Rensselaer, Village of Nassau, or Town of Greenport.

Farmlands in Rensselaer and Columbia counties are protected under both New York State and Federal law. Article 25-AA of New York State’s Agriculture and Markets Law “authorizes the creation of local agricultural to encourage the continued use of suitable farm land for agriculture and curtail the conversion of farmland to nonagricultural uses.

Federal protection for agricultural land is provided by the Farmland Protection Policy Act (FPPA), codified at Public Law 97-98, 7 USC § 4201. Projects that are completed by a federal agency, or with assistance from a federal agency, are required to comply with the provisions of the FPPA. The intent of the FPPA is to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.” As defined in the FPPA, federal programs include undertaking, financing, or assisting construction improvement projects, or acquiring, managing, or disposing of federal land. The FPPA does not apply to privately owned or non-federal land such as railroad right-of-way. As defined in the federal regulations implementing the FPPA (7 CFR § 658.1), the term “federal program” does not include federal permitting for activities on private or non-Federal lands. Note: the AHET Trail project does not include any federal funding; the cost of designing and constructing the Trail is entirely funded through New York State appropriations.

26 There are many properties in the agricultural districts that aren’t necessarily currently used for agriculture. Properties can only be removed from the Agricultural District every 8 years; therefore, properties may be subdivided and built on before they are removed.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer

The proposed trail route will not impact any agricultural resources or active agricultural operations within the City of Rensselaer; therefore, no mitigation measures are needed. (See Figure 4.4.1).

Town of East Greenbush

In the Town of East Greenbush, the AHET route runs roughly parallel with Columbia Turnpike and passes through densely developed commercial and residential areas. Throughout the town the proposed trail will be constructed in urban/suburban setting which has been previously disturbed. The nearest farm operation is Becker’s Farm and Garden Center, which is located 1,000 feet southwest of the proposed trail on the opposite side of Columbia Turnpike. The farm and garden center encompassing roughly 67 acres and is in the Rensselaer County Agricultural District, which is governed by NYS Agriculture and Markets Law Article 25-AA. The proposed trail route will have no impact on this farm. (See Figure 4.4.2). No mitigation measures are needed.

Town of Schodack

Potential Impacts:

In the Town of Schodack, the larger majority of the AHET route follows the National Grid ROW, with small segments passing through commercial and residential areas. South of Miller Road, the trail continues southward along the National Grid ROW, which bisects one large parcel on Reno Road (Tax ID # 178.-8-11.2) which is in the NYS Agricultural District. There are five (5) other parcels within the NYS Agricultural District that abut the southern side of the National Grid ROW/proposed trail route. (See Figure 4.4.3).

Mitigation Measures:

In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Rensselaer County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

Village of Nassau

The proposed trail route will not impact any agricultural resources within the Village of Nassau. There are no parcels within the village that are subject to regulation under NYS Agriculture and Markets Law Article 25-AA; therefore, the Project would not result in an impact to farmland and therefore no mitigation is required. (See Figure 4.4.4). No mitigation measures are needed.

Town of Nassau

Potential Impacts:

The Town of Nassau segment of the trail is completely off-road, following the National Grid ROW which runs roughly along the western boundary of the town, bordered by the Valatie Kill. Along the route, the proposed trail bisects a few parcels that are within the NYS Agricultural District are bisected by the existing ROW. A large majority of the AHET route follows the National Grid ROW, with small segments passing through commercial and residential areas. South of the Village of Nassau, the trail continues southward along the National Grid ROW, and bisects one (1) large parcel off of SR 203 (Tax ID 221.-6-1.1) which is in the NYS Agricultural District. There are three (3) other parcels within the NYS...
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Agricultural District that abut the National Grid ROW/proposed trail route; but are separately owned (221.-6-10.3, 221.-6-26, 221.-6-10.2). (See Figure 4.4.4).

Mitigation Measures:

In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Rensselaer County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

Town of Chatham

Potential Impacts:

South of Interstate 90 the proposed trail enters the Town of Chatham following along State Highway 203 and County Route 32. On CR 32, the proposed trail abuts three (3) large parcels which are in the NYS Agricultural District (Tax ID # 14.1.-1-27, 14.-1.-18.11, 14.-1-18.111). The proposed trail then travels west along CR 32 for roughly 1,100 feet as a shared roadway to the intersection with Depot Street where it turns south to link up with the National Grid right-of-way. The ROW bisects three (3) parcels that are part of a large equine farm (Waldorf Farms Tax ID # 14.-1.-19.100, 14.-1.-20.111, and 14.-1-58) which are within the NYS Agricultural District. (See Figure 4.4.5).

Mitigation Measures:

In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

Town of Kinderhook

Potential Impacts:

The proposed trail enters the Town of Kinderhook just south of Kinderhook Lake, and follows the National Grid ROW throughout the town for approximately 2 miles. Along the route, the proposed trail passes through seven (7) properties that are within the NYS Agricultural District (Tax ID # 33.-4.-2; 33.-1-77; 44.-1-12; 43.-1-28; 43.-1-20.120; 53.-1-1; and 43.-1-25). (See Figure 4.4.6).

Mitigation Measures:

In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.
Village of Valatie

Potential Impacts:
The trail enters the Village of Valatie at the Town of Kinderhook/Village of Valatie boundary, and continues off-road along the National Grid ROW through the entire village. The trail abuts one (1) property that is within the NYS Agricultural District (Tax ID # 44.9-1-3.200). (See Figure 4.4.6).

Mitigation Measures:
In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

Village of Kinderhook

Potential Impacts:
Just south of State Highway 9H, the trail enters the Village of Kinderhook at the Kinderhook/Valatie boundary. The proposed trail consists of a separated on-road bike lane, sidewalk system along US Route 9 and a shared use path along the National Grid ROW throughout the rest of the village. The proposed trail passes through six (6) properties within the NYS Agricultural District (Tax ID # 44.9-1-1; 44.9-1-4.11; 44.9-1-3; 44.9-1-3; 44.15-1-1 and 43.19-1-9.111). (See Figure 4.4.6).

Mitigation Measures:
In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

Town of Stuyvesant

Potential Impacts:
The proposed trail enters the Town of Stuyvesant at the intersection of Pine Oak Drive near the Town of Kinderhook/Town of Stuyvesant boundary. The trail remains off-road following the National Grid ROW for roughly 0.3 miles until it intersects with Smith Road. At this point the proposed trail turns to the east where it transitions to a Side Path along Smith Rd. and US Route 9 and transitions to a walk/bike roadway along Sunnyside Rd. until it links up with the National Grid ROW as an off-road shared use path. The trail passes through thirteen (13) properties that are within the NYS Agricultural District (Tax ID # 53.1-1-63.11; 53.1-1-62; 33.1-3; 53.1-5.111; 53.1-6; 53.1-5.11; 53.1-10; 53.1-9; 53.1-11; 63.-1-6; 63.-1-5). (See Figure 4.4.7).

Mitigation Measures:
In the vicinity of Wil-Roc Farms, the AHET Trail route will not utilize the National Grid ROW because it would have to go through an active dairy building complex. Rather, the trail will be routed on-road on Smith Road, Route 9, and Sunnyside...
Road. South of Sunnyside Road, the trail will be developed on the former railroad bed, on National Grid’s ROW. This section of trail will be designed so that Wil-Roc Farms can continue to utilize the ROW for agricultural equipment to access your fields south of Sunnyside, with bicyclists, pedestrians, and farm equipment sharing the path. In any other areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

**Town of Stockport**

**Potential Impacts:**

Upon entering the Town of Stockport at the Stuyvesant/Stockport town line, the trail continues along the National Grid ROW, running parallel to US Route 9, south for roughly 1.75 miles until the ROW intersects with Rossman Rd. where the trail transitions to a shared roadway. The trail passes through seven (7) properties that are within the NYS Agricultural District (Tax ID # 62.-1-17.111; 62.-1-20; 62.-1-21; 62.-1-23; 72.-1-13.100; 72.-1-14; 62.-1-24). (See Figure 4.4.8).

**Mitigation Measures:**

In areas where there are active farm operations that require the use of the National Grid ROW for access to farm fields, the HRVG will incorporate a variety of design features in the AHET Trail to minimize impacts to adjacent agricultural lands. For example, in places where farm equipment currently crosses the AHET Trail to access fields, this practice will continue, with the HRVG working with involved farmers to designate safe crossing locations. HRVG will install signage, and where appropriate fencing and gates, to reinforce trail users must stay on the trail and not enter adjacent agricultural areas. We note that in many places in Columbia County, agricultural fields are farmed right up to the edge of local roads, without creating undue restrictions on farmers or risks to the public. We believe the same practices can occur adjacent to the AHET Trail.

**Town of Greenport**

The proposed trail route will not impact any agricultural resources within the Town of Greenport. There are no parcels within the town that are subject to regulation under NYS Agriculture and Markets Law Article 25-AA; therefore, the Project would not result in an impact to farmland and therefore no mitigation is required. (See Figure 4.4.9).

### 4.5 Historic and Archaeological Resources

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places; wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory, and/or wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. The following section evaluates the extent of these potential and provides mitigation measures where necessary.
Methodology

The consulting firm Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase I archeological investigation for the proposed trail. This investigation was conducted to comply with §14.09 of the State Historic Preservation Act and will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The investigation was conducted according to the New York Archaeological Council’s Standards for Cultural Resource Investigations and the Curation of Archaeological Collections (1994), which are endorsed by OPRHP. The Phase 1 Report was prepared according to OPRHP’s State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements (2005). The complete report is in Appendix 4.5

The archeological study focused on the “off-road” sections of the proposed trail corridor that altogether equal 26 linear miles of the overall 36-mile-long Project. On-road sections of the trail route were not studied for archeological resources because they were previously disturbed during road construction. After correspondence with SHPO, the areas of archeological investigation along the off-road sections of the trail route were further reduced. Approximately 17.5 miles of the proposed trail were excluded due to slope or standing water. Steeply sloped areas are considered largely unsuitable for human occupation. As such, the standards for archeological fieldwork in New York State generally exclude areas with a slope in excess of 12% from archeological testing (NYAC 1994). Exceptions to this rule include steep areas with bedrock outcrops, overhangs, and large boulders that may have been used by pre-contact people as quarries or rock-shelters.

SHPOs recommendations also further refined the archeological testing areas “to include only those areas that fall within 300 feet (100 m) of permanent water (streams, rivers, ponds, lakes, wetlands) and in the location (immediate vicinity) of structures that pre-date 1850 within the project’s Area of Potential Effect (APE) (Letter from OPRHP, dated November 16, 2017).” From north to south, these water sources included Mill Creek (near Rensselaer), North Branch Moordener Kill and Moordener Kill (between East Greenbush and East Schodack), the Valatie Kill and its offshoots (north of Nassau south to Valatie), Nassau Lake, Kinderhook Lake, the Kinderhook Creek, and several unnamed tributaries.

Environmental Setting

4.5.1 Historic Properties

An examination of New York State Cultural Resource Information System (CRIS) identified the following eight (8) Nationally Registered (NR) properties, and one contributing property within the project area. The reconnaissance identified only one (1) potential historic site that would be impacted by construction of the proposed trail.

Table 4.5.1: Inventoried Properties on the National Register of Historic Places

<table>
<thead>
<tr>
<th>Municipality</th>
<th>USN</th>
<th>Property Name</th>
<th>Status</th>
<th>Description</th>
<th>Proximity to Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Rensselaer</td>
<td>07NR05742</td>
<td>W. P. Irwin Bank Building</td>
<td>NR</td>
<td>Late 19th c. commercial (bank) building (built 1873), later converted to residences</td>
<td>Within APE</td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>90NR01009</td>
<td>Albany Avenue Historic District</td>
<td>NR</td>
<td>*Ten residences with construction dates between the early 19th c. to</td>
<td>180 feet west of APE</td>
</tr>
<tr>
<td>Town of Chatham</td>
<td>12NR06347</td>
<td>North Chatham Historic District</td>
<td>NR</td>
<td>*Listed district containing 134 contributing and 71 noncontributing</td>
<td>Within APE</td>
</tr>
<tr>
<td>Town of Chatham</td>
<td>99NR01493</td>
<td>Peck House</td>
<td>Contributing</td>
<td>*Single domestic dwelling, reconstructed c. 1848, with</td>
<td>50 feet east of APE</td>
</tr>
</tbody>
</table>
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

<table>
<thead>
<tr>
<th>Municipality</th>
<th>USN</th>
<th>Property Name</th>
<th>Status</th>
<th>Description</th>
<th>Proximity to Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village of Valatie</td>
<td>91NR00013</td>
<td>Nathan Wild House</td>
<td>NR</td>
<td>&quot;19th century residence erected in 1826, with east and west wings added</td>
<td>165 feet east of APE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>between 1835 and 1845, a north wing and back porch added</td>
<td></td>
</tr>
<tr>
<td>Village of Valatie</td>
<td>90NR00259</td>
<td>Wild’s Mill Complex</td>
<td>NR</td>
<td>&quot;Extant mill structure constructed in 1846, with an addition c. 1890. An</td>
<td>Within APE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>earlier mill was constructed in 1828. Power looms were first introduced in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New York State at</td>
<td></td>
</tr>
<tr>
<td>Village of Kinderhook</td>
<td>90NR00258</td>
<td>Kinderhook Village Historic District</td>
<td>NR</td>
<td>&quot;This district contains approximately 250 structures, of which around 200</td>
<td>Within APE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>predate the 20th</td>
<td></td>
</tr>
<tr>
<td>Town of Stuyvesant</td>
<td>90NR00245</td>
<td>Stuyvesant Falls Mill District</td>
<td>NR</td>
<td>&quot;Encompasses the Upper and Lower Falls and mill dams, and includes a</td>
<td>Within APE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>number of mill sites, some extant mill buildings, several dwellings, and an</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>iron</td>
<td></td>
</tr>
</tbody>
</table>

As expected, there are concentrations of historic sites in Stuyvesant Falls, Kinderhook, Valatie, near Nassau, towards the northern border of Schodack, and in Rensselaer. There are also a number of pre-1850s Map Documented Structures located in the immediate vicinity of the proposed project. The historic archeological sensitivity in these areas is considered high. Overall, the historic archeological sensitivity for the project is considered high.

However, despite the moderate to high precontact and historic archeological sensitivities throughout the APE, the site survey revealed numerous areas of disturbance throughout the Project including stretches of cut, filled, and built land, with many disturbances dating to when the railroad was originally constructed. Areas of obvious disturbance were photographically documented and were not excavated for archeological testing. Areas that appeared to be relatively level with the surrounding landscape and, therefore, had a higher archeological potential, were tested. The complete report is in Appendix 4.5.

Based on SHPO’s guidance, Hartgen excavated nearly 600 test pits in areas identified as being potentially archeologically significant along the 36-mile AHET trail route. No Native American archeological resources were identified at any sites. Some test pits identified small pieces of metal, spikes, broken glass, and other unidentifiable objects dating from the period of the operation of the railroad, and from subsequent activities since the railroad ceased operating in 1929. None of the items related the periods during and after operation of the railroad are considered archeologically significant.

4.5.2 Archeological Sites

An examination of New York State Cultural Resource Information System (CRIS) identified 61 reported archeological sites within one-half mile (1.6 km) of the proposed project. Previously reported archeological sites provide an overview of both the types of sites that may be present in the Project and relation of sites throughout the surrounding region. The presence of few reported sites, however, may result from a lack of previous systematic survey and does not necessarily indicate a decreased archeological sensitivity within the Project. (See Table 2, Appendix 4.5).

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer

There are many historic sites and archeological sites within the City of Rensselaer. In the City, the proposed trail will be in the form of the existing sidewalk system along Broadway and Columbia St (US Route 9), which turns into Columbia Turnpike at the East Greenbush town line. For bicyclists, an on-road bike lane will be designated. The proposed trail will
be on existing roads and sidewalks, and not involve ground disturbance; therefore, there will be no impact on historic or archeological resources in the City.

**Town of East Greenbush**

In the Town of East Greenbush, the AHET route offers several distinct user options depending on the location. The proposed trail will be in the form pedestrian off-road accommodations on the existing sidewalk system on-road bike lane; walk/bike roadway and off-road shared use path along the National Grid right-of-way (ROW). No historic or archeological sites were identified in proximity to the proposed trail; therefore, no impact is anticipated.

**Town of Schodack**

In the Town Schodack, the AHET route offers several distinct user options depending on the location. The proposed trail will be in the form pedestrian off-road accommodations on the existing sidewalk system on-road bike lane; walk/bike roadway and off-road shared use path along the National Grid right-of-way (ROW) No historic or archeological sites were identified in proximity to the proposed trail therefore, no impact is anticipated.

**Village of Nassau**

The Village of Nassau is home to the Albany Avenue and Church Street Historic District Historic District. The proposed trail route is roughly 150 feet east of the Albany Avenue, and 400 feet west of the Church Street Historic District. The proposed trail will have no impact on historic or archeological resources in the Village.

**Town of Nassau**

The Town of Nassau segment of the trail is completely off-road, following the National Grid ROW which runs roughly along the western boundary of the town, bordered by the Valatie Kill. No historic or archeological sites were identified in proximity to the proposed trail. The Henry Tunis Smith Farm Historic Site (also known as the Middlebrook Farm) is located roughly 600 feet to the east of the proposed trail, and the proposed trail will not impact this site. No historic or archeological sites were identified in proximity to the proposed trail; therefore, no impact is anticipated.

**Town of Chatham**

The North Chatham Historic District, the Peck House Historic Site, and the Waldorf Farms Cemetery are within close proximity to the proposed trail. The North Chatham Historic District is bisected by the proposed trail, and the Peck House Historic Site is located on the corner of CR 32 and the National Grid ROW. There is an historic cemetery located 100 feet east of the proposed trail. This cemetery is 100 feet east of the proposed trail, and therefore will not be impacted. There’s a wide vegetated buffer between the trail corridor and the cemetery, which will serve to prevent trail users from entering private property to look at the headstones.

**Town of Kinderhook**

A “Persons of Color Cemetery,” is located in the Town of Kinderhook. This cemetery is located over 450 feet from the proposed trail, and there is likely no risk of any burial sites conflicting with trail construction. The proposed trail will have no impact on historic or archeological resources in the town.

**Village of Valatie**

The Village of Valatie is home to the Nathan Wild House and Wild’s Mill Complex Historic Sites. The proposed trail is located approximately 160 feet west of the Nathan Wild House but runs directly adjacent to the Wild’s Mill Complex Historic Site. The proposed trail will have no impact on historic or archeological resources in the Village.
Village of Kinderhook
The Village of Kinderhook is home to the Kinderhook Village District. The proposed trail bisects the Historic District. The proposed trail will have no impact on historic or archeological resources in the Village.

Town of Stuyvesant
South of Kinderhook, the historic hydroelectric plant that once powered the trolley line is located at Stuyvesant Falls. This complex is located approximately 200 feet south of the Project on Kinderhook Creek, and is a part of the Stuyvesant Falls Mill District. The hydroelectric plant is separated from the project by New St. and SR 22, and will not be impacted by the proposed trail. The reconnaissance identified one (1) potential historic site located along the section of the proposed AHET Trail adjacent to Stuyvesant Falls.

Testing indicated that this dump site likely developed over a period of several decades following the abandonment of the trolley, and no significant historic archeological deposits were encountered. Due to the late date of deposits encountered (c. 1930-1960s) at this site it is recommended to be ineligible for the National Register of Historic Places.

Town of Stockport
In the Town of Stockport, the proposed trail continues along the National Grid ROW, running parallel to US Route 9, south for roughly 1.75 miles until the ROW intersects with Rossman Road where the trail transitions to a shared roadway. South of the hamlet of Stockport, the trail continues along the National Grid ROW. There are no historic sites located within close proximity to the proposed trail. No historic or archeological sites were identified in proximity to the proposed trail; therefore, no impact is anticipated.

Town of Greenport
Following the National Grid ROW, the shared-use path enters the Town of Greenport at the Stockport/Greenport town line, running roughly parallel to but away from the Claverack Creek. The trail continues off road for approximately ¾ of a mile until it intersects with Kipp Lane. South of the intersection with Kipp Lane, the trail transitions to a Side Path along the east side US Route 9 (Fairview Avenue.) for roughly 700 feet to the intersection of Livingston Parkway where the trail will terminate. There are no historic sites located within close proximity to the proposed trail. No historic or archeological sites were identified in proximity to the proposed trail; therefore, no impact is anticipated.

4.6 Transportation
The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially alter the present pattern of movement of people or goods. The following section evaluates the extent of this impact and provides mitigation measures where necessary.

Environmental Setting
This project will be developed within the three (3) Villages, eight (8) Towns, two (2) Cities, and two (2) Counties, which are all predominantly accessed by vehicles. The major transportation corridor through the project area consists of Route 9 and NYS 203 along with various County highways, which function as major north-south connections of both Rensselaer and Columbia Counties. The project also crosses both I-90 at Exit 10 and the Berkshire spur at approximately MP 8.9.

At various locations where off-road trail segments cross public roads, traffic studies were conducted which evaluated the existing traffic conditions and counts including vehicular, bicycle, and pedestrian traffic. Research was conducted to identify any previous traffic studies along the corridor and the type and number of accidents recorded. A traffic
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

A generation model and /or program was developed to identify specific types and level of impacts for the crossing that may have the highest overall flow of traffic. (See Appendix 4.5).

Environmental Impacts & Proposed Mitigation Measures

City of Rensselaer
In the City of Rensselaer existing sidewalk along NYS Route 20 and bicycle lanes along NYS Route 151 will be utilized where construction along the various routing and hence no additional impacts and/or studies are warranted within the City Limits.

Town of East Greenbush
There are sixteen (16) local, county, and state crossing in the Town of East Greenbush. These crossings range from marked and signed with crosswalks to mark, signed & yield with crosswalks to use of a High-Intensity Activated crosswalk beacon (HAWK). A full traffic study and signal warrant analysis has been completed for the proposed location of the HAWK along US 4 (Troy Road) along with routing along a section of the trail on Tamarack Lane.

Town of Schodack
There are nine (9) local, county, and state crossing in the Town of Schodack. These crossings range from marked and signed with crosswalks to mark, signed & yield with crosswalks to Circular Flashing Pedestrian Beacon (CFPB) to use of a High-Intensity Activated crosswalk beacon (HAWK). A full traffic study and signal warrant study has been completed for the proposed location of the HAWK along Miller Road. Additionally, there are five proposed locations of CFPB at the two ramps for I-90 at Miller Road (Exit 10) and the three (3) CR 7 crossings.

Village of Nassau
There are two (2) local, county, and state crossing in the Village of Nassau. These crossings will range from marked and signed with crosswalks to Circular Pedestrian Flashing Beacon (CFPB). The location of the CFPB along US 20 will be reviewed by the NYSDOT. No additional impacts and/or studies are warranted.

Town of Nassau
There is one (1) local, county, and state crossing in the Town of Nassau. This crossing will consist of a marked and signed with crosswalk. No additional impacts and/or studies are warranted.

Town of Chatham
There are six (6) local, county, and state crossings in the Town of Chatham. These crossings will range from marked and signed with crosswalks to mark, signed & yield with crosswalks to a proposed mini-roundabout at the intersection of Bunker Hill and NYS Route 203 and CR 32. The mini-roundabout at this location will allow the on-road section of the trail to be constructed while serving as a traffic calming measure to negative the negative effects of motor vehicle usage along with providing for improvements to the condition for non-motorized users. The design of this mini-roundabout will be in conformance with the latest NYSDOT standard as outlined in the NYSDOT Highway Design Manual.

Town of Kinderhook
There will be two (2) local, county, and state crossing in the Town of Kinderhook. These crossing will range from marked, signed & yield with crosswalks to Circular Pedestrian Flashing Beacon (CFPB). The location of the CFPB will be reviewed by the County. No additional impacts and/or studies are warranted.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Village of Valatie
There will be four (4) local, county, and state crossing in the Village of Valatie. The improvement to the crossing at the intersection with Main Street will be reviewed by the NYSDOT. No additional impacts and/or studies are warranted.

Village of Kinderhook
There will be three (3) local, county, and state crossing in the Village of Kinderhook. These crossing will range from marked, signed & yield with crosswalks to Circular Pedestrian Flashing Beacon (CPFB). The Village has provided us with a detailed traffic and speed study that has been reviewed and coordinated with to ensure compliance with the past and future initiatives. No additional impacts and/or studies are warranted.

Town of Stuyvesant
There will be seven (7) local, county, and state crossing in the Town of Stuyvesant. These crossing will range from marked, signed & yield with crosswalks to Circular Pedestrian Flashing Beacon (CPFB). No additional impacts and/or studies are warranted.

Town of Stockport
There will be nine (9) local, county, and state crossing in the Town of Stockport. These crossing will range from marked, signed & yield with crosswalks to Circular Pedestrian Flashing Beacon (CPFB). No additional impacts and/or studies are warranted.

Town of Greenport
There will be four (4) local, county, and state crossing in the Town of Greenport. These crossing will range from marked, signed & yield with crosswalks to Circular Pedestrian Flashing Beacon (CPFB). Additionally, the signal at the intersection of Livingston Avenue will be modernized to include pedestrian activation phases across US 9, this modernization will be included as part of the NYSDOT PIN 8EST12 share. No additional impacts and/or studies are warranted.

4.7 Human Health

4.7.1 Schools & Health Facilities
The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may potentially be located within 1,500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community. The following section evaluates the potential impacts to such facilities and provides mitigation measures where necessary.

Environmental Setting
There are five (5) schools, two (2) medical services buildings, nineteen (19) licensed day care centers, three (3) group homes, one (1) nursing home, and one retirement community within 1,500 feet of the proposed trail. The following table illustrates the location of these facilities.
### Table 4.7.1: Schools & Health Facilities within Proximity to AHET

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Facility Name/Owner</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Rensselaer</td>
<td>St Johns Church</td>
<td>50 Herrick St</td>
<td>Rensselaer</td>
<td>NY</td>
<td>12144-2313</td>
<td>School</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>Greenbush Child Caring, Inc.</td>
<td>225 McCullough Pl</td>
<td>Rensselaer</td>
<td>NY</td>
<td>12144</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>A Tiny Tot’s Daycare</td>
<td>34 Broadway</td>
<td>Rensselaer</td>
<td>NY</td>
<td>12144</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>East Greenbush Central School District -Genet Elementary</td>
<td>24 &amp; 29 Englewood Ave</td>
<td>East Greenbush</td>
<td>NY</td>
<td>12061</td>
<td>School</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>East Greenbush Central School District -Red Mill Elementary</td>
<td>29 Englewood Ave</td>
<td>East Greenbush</td>
<td>NY</td>
<td>12061</td>
<td>School</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>Living Resources Corp.</td>
<td>300 Washington Ave Ext</td>
<td>Albany</td>
<td>NY</td>
<td>12203</td>
<td>Adult Group Home</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>Crotched Mountain of NY East Greenbush Inc.</td>
<td>One Verney Dr.</td>
<td>Greenfield</td>
<td>NY</td>
<td>03047</td>
<td>Adult Group Home</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>White House Realty LLC</td>
<td>10 Bruen Ct</td>
<td>Rensselaer</td>
<td>NY</td>
<td>12144</td>
<td>Adult Group Home</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>Urgent Care</td>
<td>598 Columbia Turnpike</td>
<td>East Greenbush</td>
<td>NY</td>
<td>12061</td>
<td>Health bldg</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>Teddy Bear Daycare</td>
<td>54 Highland Dr.</td>
<td>East Greenbush</td>
<td>NY</td>
<td>12061</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Town of East Greenbush</td>
<td>Sunshine Day Nursery School</td>
<td>14 Hays Rd.</td>
<td>East Greenbush</td>
<td>NY</td>
<td>12061</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Town of East Greenbush</td>
<td>Discovery Place Learning Center, LLC</td>
<td>749 Columbia Turnpike</td>
<td>East Greenbush</td>
<td>NY</td>
<td>12061</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Town of Schodack</td>
<td>Commission on Economic Opportunity for Greater Capital Region Inc.</td>
<td>24 New Road</td>
<td>Schodack</td>
<td>NY</td>
<td>12123</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Town of Schodack</td>
<td>Village at Miller Road LLC</td>
<td>14 Corporate Woods Blvd</td>
<td>Albany</td>
<td>NY</td>
<td>12211</td>
<td>Health bldg</td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>Donald P. Sutherland Elementary School</td>
<td>4 John St</td>
<td>Nassau</td>
<td>NY</td>
<td>12123</td>
<td>School</td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>Nassau Nursery Assoc</td>
<td>13 Church St</td>
<td>Nassau</td>
<td>NY</td>
<td>12123</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>Nassau Senior Housing Development Fund Company</td>
<td>99 Bloomingrove Dr.</td>
<td>Troy</td>
<td>NY</td>
<td>12180</td>
<td>Home for the Aged</td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>Kid’s Place</td>
<td>13 Church St</td>
<td>Nassau</td>
<td>NY</td>
<td>12123</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>Greenbush Child Caring, Inc.</td>
<td>4 John St</td>
<td>Nassau</td>
<td>NY</td>
<td>12123</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Town of Kinderhook</td>
<td>Ichabod Crane Cent School</td>
<td>Po Box 820</td>
<td>Valatie</td>
<td>NY</td>
<td>12184-0820</td>
<td>School</td>
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<tr>
<td>Village of Valatie</td>
<td>Barnwell Nursing &amp; Rehabilitation Center</td>
<td>Po Box 810</td>
<td>Valatie</td>
<td>NY</td>
<td>12184-0820</td>
<td>Nursing Home</td>
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<tr>
<td>Village of Valatie</td>
<td>Little Wonders ECEC</td>
<td>2872 U.S. 9, Valatie</td>
<td>Valatie</td>
<td>NY</td>
<td>12184</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Village of Valatie</td>
<td>Little Falls Kinder Center, Inc.</td>
<td>3225 Church St</td>
<td>Valatie</td>
<td>NY</td>
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<td>Licensed Day Care Center</td>
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<tr>
<td>Village of Valatie</td>
<td>Church Street Pre School</td>
<td>Church St</td>
<td>Valatie</td>
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<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Village of Valatie</td>
<td>O K Kids</td>
<td>RR 9</td>
<td>Valatie</td>
<td>NY</td>
<td>12184</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Town of Stuyvesant</td>
<td>Apple Tree Daycare</td>
<td>1840 U.S. 9</td>
<td>Stuyvesant</td>
<td>NY</td>
<td>12173</td>
<td>Licensed Day Care Center</td>
</tr>
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</table>
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Facility Name/Owner</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
<th>Description</th>
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<tr>
<td>Town of Stuyvesant</td>
<td>Preschool at Stuyvesant Falls</td>
<td>1820 U.S. 9</td>
<td>Stuyvesant</td>
<td>NY</td>
<td>12173</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Town of Stockport</td>
<td>Cavalry Assembly of God,</td>
<td>PO Box 337</td>
<td>Stottville</td>
<td>NY</td>
<td>12172</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Town of Stockport</td>
<td>Childcare Discovery Center</td>
<td>34 Rossman Cir</td>
<td>Hudson</td>
<td>NY</td>
<td>12534</td>
<td>Licensed Day Care Center</td>
</tr>
<tr>
<td>Town of Stockport</td>
<td>Little Lions Learning Center</td>
<td>2813 Atlantic Ave</td>
<td>Hudson</td>
<td>NY</td>
<td>12534</td>
<td>Licensed Day Care Center</td>
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<tr>
<td>Town of Greenport</td>
<td>Learning Essentials Inc</td>
<td>4 Delaware Ave</td>
<td>Hudson</td>
<td>NY</td>
<td>12534</td>
<td>Licensed Day Care Center</td>
</tr>
</tbody>
</table>

Environmental Impacts & Proposed Mitigation Measures

The proximity to the proposed trail to these facilities will result in greater opportunities for healthy, safe outdoor recreation. The trail will not generate any adverse impact on schools or health facilities; therefore, no mitigation is necessary in any of the study area communities. As discussed in Section 1.4, the proposed trail will provide important transportation and recreation benefits, and helping connect people to the Hudson River Valley landscape. The AHET will improve the health and well-being for local resident and visitors as access to outdoor activities increases participation in healthy lifestyles and improves the academic performance of children. Regular exercise reduces the likelihood of heart and respiratory disease. People with access to trails exercise more regularly than those without access to similar recreational opportunities. With a growing epidemic of obesity, the project promotes healthier living. The lack of, or inadequacy of, sidewalks and bicycle paths are often cited as contributing factors to this nationwide problem of obesity. The project will provide opportunities for increased physical activity by incorporating active design elements that promote walking, jogging and cycling. (See Section 1.4 for more details).

4.7.2 Spills, Remediation & Hazardous Waste Sites

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may be adjacent to a completed emergency spill remediation, a completed environmental site remediation, and/or may result in excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste. The following section evaluates the potential extent of these impacts and provides mitigation measures where necessary.

Environmental Setting

In order to acquire information on spills, remediation and hazardous sites in proximity to the trail, multiple sources have been cross referenced to create an up to date list and to develop a complete understanding of the locations along the trail that will require additional exploration. The online databases referenced were for both Rensselaer County and Columbia County. The sites identified include a variety of spills, remediation and hazardous sites of varying degree, sites that have been cleaned or cleared of hazardous materials, or sites that may not actually fall within the project area. Due to the limited abilities and functionality of online remediation databases, a list was compiled by approximating a buffer along the trail route and have been identified in Table 4.7.2.1 below. A second source contacted for spill, remediation and hazardous sites was directly through the regional NYSDEC representatives for both Rensselaer and Columbia Counties. Correspondence with these DEC representatives have identified and confirmed sites that will need to be assessed.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

The following NYS DEC regulated spills and remediation sites were identified via online databases and are approximately adjacent to the proposed trail site. An approximate buffer was utilized to identify the sites that had potential to affect the trail.

Table 4.7.2.1: Nearby Spills and Remediation Sites

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Site Code</th>
<th>Site Name</th>
<th>Program</th>
<th>Address</th>
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<tr>
<td>Rensselaer/Columbia Counties</td>
<td>546031</td>
<td>Hudson River PCB Sediments</td>
<td>State Superfund Program</td>
<td>Hudson River, Hudson Falls-NYC Battery</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>442022</td>
<td>BASF Wyandotte Corporation</td>
<td>State Superfund Program</td>
<td>36 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>442009</td>
<td>Sterling Drug Site 1</td>
<td>State Superfund Program</td>
<td>33 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>442027</td>
<td>BASF - Manufacturing Plant</td>
<td>State Superfund Program</td>
<td>36 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>V00488</td>
<td>NM - Rensselaer MGP</td>
<td>Voluntary Cleanup Program</td>
<td>Washington St</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>V00521</td>
<td>BASF Corporation Closed Landfill</td>
<td>Voluntary Cleanup Program</td>
<td>36 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>V00464</td>
<td>BASF Corporation South 40 Parcel</td>
<td>Voluntary Cleanup Program</td>
<td>36 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>C442043</td>
<td>Tim Bayly Property</td>
<td>Brownfield Cleanup Program</td>
<td>800 Broadway</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>442038</td>
<td>Ashland Distribution</td>
<td>Resource Conservation/Recovery</td>
<td>South Street</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>442004</td>
<td>BASF</td>
<td>State Superfund Program</td>
<td>36 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>C442035</td>
<td>BASF Corporation &quot;South 40&quot;</td>
<td>Brownfield Cleanup Program</td>
<td>36 Riverside Avenue</td>
</tr>
<tr>
<td>City of Rensselaer</td>
<td>442003</td>
<td>Former City of Rensselaer Landfill</td>
<td>State Superfund Program</td>
<td>Partition Street</td>
</tr>
<tr>
<td>Town of Kinderhook</td>
<td>411016</td>
<td>Emkay Cleaners (Valatie Village Plaza)</td>
<td>State Superfund Program</td>
<td>1048 Kinderhook Street</td>
</tr>
<tr>
<td>Town of Stockport</td>
<td>411004</td>
<td>L &amp; B Products</td>
<td>State Superfund Program</td>
<td>Bills Road</td>
</tr>
</tbody>
</table>

A NYSDEC staff member familiar with Rensselaer County helped confirm that the two sites identified by online databases did not appear to be in proximity to the portion of the trail that is proposed in the county. However, the DEC representative was not able to acquire a list of closed spills, remediation or hazardous sites in proximity to the trail. Per the representative’s comments, a full list of spills located in the applicable towns may number in the thousands, however, most if not all would be outside the confines of the trail corridor. This list will be explored further as the trail plans continue to develop. The DEC representative explained that the DEC Region 4 Spill Hotline (1-800-457-7362) must be contacted within two hours of discovery of a spill and to contact the Region 4 office if any underground tanks or contamination are identified along the trail route during construction.

In Columbia County, two active spill, remediation or hazardous sites were identified within proximity to the portion of the trail:

Spill # 1605930 – Wheeler Property, 4322 State Route 203, Town of Chatham – The property is owned by Columbia County and the DEC is performing the cleanup. The spill is currently open, and remediation is ongoing.

Spill # 1706793 – Fairview Cleaners, 316-318 Fairview Avenue, Town of Greenport – The site is a dry cleaner. The spill is closed. Low level contamination was noted during soil boring at the site.

Environmental Impacts & Proposed Mitigation Measures

There are no mitigation measures necessary at this point in time. If any contamination is encountered during the construction of the project, the spill (including soil contamination) must be called into the Spill Hotline (1-800-457-7362).
within two hours of discovery. If any underground tanks are encountered, the Region 4 DEC Office will be contacted.

**City of Rensselaer**

The City of Rensselaer was shown to contain multiple spills per online database systems, but the list of spills was reviewed and corrected. The DEC representative from Rensselaer County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the City. At this time no additional action is anticipated to hinder the development of trail plans.

**Town of East Greenbush**

The Town of East Greenbush was shown to contain no spills per online database systems, and the list of spills was reviewed and confirmed. The DEC representative familiar with Rensselaer County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Town. At this time no additional action is anticipated to hinder the development of trail plans.

**Town of Schodack**

The Town of Schodack was shown to contain no spills per online database systems, and the list of spills was reviewed and confirmed. The DEC representative familiar with Rensselaer County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Town. At this time no additional action is anticipated to hinder the development of trail plans.

**Town of Nassau**

There are no other solid or hazardous waste sites within in 2,000 feet of the proposed trail; however, the proposed trail is located within 2,000 feet of Nassau Lake, the Valatie Kill and other tributaries of Nassau Lake. There is currently a fish consumption advisory for Nassau Lake and the surrounding water bodies due to contamination related to Dewey Loeffel Landfill Superfund Site which is located roughly three (3) miles northeast of Nassau Lake. In the 1950s and 1960s, the landfill site was used as a disposal facility for more than 46,000 tons of industrial hazardous wastes, including solvents, waste oils, polychlorinated biphenyls (PCBs), scrap materials, sludges and solids. Some hazardous substances, including volatile organic compounds (VOCs) and PCBs, have migrated from the facility to underlying aquifers and downstream surface water bodies, resulting in contamination of groundwater, surface water, sediments and several species of fish. In 2013, the EPA reached agreements with two of the parties responsible for the contamination at the Dewey Loeffel Landfill Superfund site (GE and/or SI Group) to perform comprehensive investigations of the landfill, groundwater and the drainageways, as well as to evaluate cleanup options for the site. Two separate investigations are being conducted in parallel for the landfill/groundwater and the drainageways under the EPA’s oversight. The investigation of the “drainageways” includes the ponds, streams and other water bodies that have been impacted by the site, including Nassau Lake. 27

The construction of the proposed trail will have no direct impact of the Dewey Loeffel Landfill Superfund Site, Nassau Lake or the Valatie Kill immediately south of Nassau Lake. The proposed trail will be constructed roughly 300 feet west of the Nassau Lake shoreline. According to the DEC, “there are unlikely to be any Loeffel-related impacts south of the Nassau Lake dam, which was upgraded in the early 2000’s by GE. In 2015 during the re-assessment of the drainageways, samples were collected no further than 500’ downstream of the dam and targeted sediment depositional areas. All of these results came back with “non-detect” levels of PCBs”. 28


28 Source: NYS DEC correspondence from: Forster, Kyle M (DEC) to Baker, Nancy M (DEC), sent: Friday, January 12, 2018 2:00 PM.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Village of Nassau

The Village of Nassau was shown to contain no spills per online database systems, and the list of spills was reviewed and confirmed. The DEC representative familiar with Rensselaer County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Village. At this time no additional action is anticipated to hinder the development of trail plans.

Town of Chatham

The Town of Chatham was shown to contain no spills per online database systems however; the list of spills was reviewed and corrected. The DEC representative familiar with Columbia County was able to identify one open spill, remediation or hazardous site in proximity to the trail route through the Town. As the trail plans develop, the necessary precautions, safety measures, and protective features will be incorporated.

Town of Kinderhook

The Town of Kinderhook was shown to contain one spill per online database systems, and the list of spills was reviewed and corrected. The DEC representative familiar with Columbia County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Town. At this time no additional action is anticipated to hinder the development of trail plans.

Village of Valatie

The Village of Valatie was shown to contain no spills per online database systems, and the list of spills was reviewed and confirmed. The DEC representative familiar with Columbia County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Village. At this time no additional action is anticipated to hinder the development of trail plans.

Village of Kinderhook

The Village of Kinderhook was shown to contain no spills per online database systems, and the list of spills was reviewed and confirmed. The DEC representative familiar with Columbia County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Village. At this time no additional action is anticipated to hinder the development of trail plans.

Town of Stuyvesant

The Town of Stuyvesant was shown to contain no spills per online database systems, and the list of spills was reviewed and confirmed. The DEC representative familiar with Columbia County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Town. At this time no additional action is anticipated to hinder the development of trail plans.

Town of Stockport

The Town of Stockport was shown to contain one spill per online database systems, and the list of spills was reviewed and corrected. The DEC representative familiar with Columbia County was not able to identify any open spill, remediation or hazardous sites in proximity to the trail route through the Town. At this time no additional action is anticipated to hinder the development of trail plans.

Town of Greenport

The Town of Greenport was shown to contain no spills per online database systems, however, the list of spills was reviewed and corrected. The DEC representative familiar with Columbia County was able to identify one open spill,
remediation or hazardous site in proximity to the trail route through the Town. As the trail plans develop, the necessary precautions, safety measures, and protective features will be incorporated.

### 4.8 Consistency with Community Plans and Zoning

#### 4.8.1 Local Planning and Zoning

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or 'scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed actions may be different from current surrounding land use pattern(s). The following section evaluates the potential for this impact and provides mitigation measures where necessary.

**Environmental Setting**

**Existing Land Use Patterns**

The proposed action is not in sharp contrast to the current surrounding land use patterns. In order to provide a snapshot of the existing land use within proximity to the proposed AHET trail, a series of Existing Land Use Maps. (See Appendix 4.8.1, Figures 4.8.1 - 4.8.9) was created based on the NYS Department of Taxation & Finance, Assessors’ Manual, property type classifications. A description of the real property assessment classification codes is provided in Table 4.8.2 below.

#### Table 4.8.1.1: Existing Land Use Analysis for AHET Route

<table>
<thead>
<tr>
<th>Property Class</th>
<th>Number of Parcels</th>
<th>Acres</th>
<th>% of Land Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>32</td>
<td>2,459</td>
<td>22.34%</td>
</tr>
<tr>
<td>Residential</td>
<td>990</td>
<td>2,691</td>
<td>24.44%</td>
</tr>
<tr>
<td>Commercial</td>
<td>201</td>
<td>848</td>
<td>7.70%</td>
</tr>
<tr>
<td>Industrial</td>
<td>10</td>
<td>151</td>
<td>1.37%</td>
</tr>
<tr>
<td>Recreation and Entertainment</td>
<td>6</td>
<td>15</td>
<td>0.14%</td>
</tr>
<tr>
<td>Community Services</td>
<td>38</td>
<td>510</td>
<td>4.63%</td>
</tr>
<tr>
<td>Public Services</td>
<td>20</td>
<td>610</td>
<td>5.54%</td>
</tr>
<tr>
<td>Wild, Forested, Conservation Lands</td>
<td>14</td>
<td>61</td>
<td>0.55%</td>
</tr>
<tr>
<td>Vacant Land</td>
<td>279</td>
<td>3,664</td>
<td>33.28%</td>
</tr>
<tr>
<td>Unknown</td>
<td>41</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,631</strong></td>
<td><strong>11,009</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

*Table 4.8.1,* presents summary data from the Rensselaer and Columbia County’s Real Property Tax system, which identifies the number of parcels, acreage, and percentage of total acreage of land located within 100 feet of the proposed trail. As illustrated in the table, of the approximate 1,600 parcels adjacent to the proposed trail, the largest percentage of land is categorized as Vacant (33%) followed by Residential (24%) and Agricultural (22%). By parcel number (as opposed to acreage), 60% of the adjacent parcels are classified as Residential, and another 12% are commercial, indicating there will be significant use of the trail by adjacent property owners for recreational and transportation purposes. The existing land use is complimentary to the future development of a recreational trail.
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

Figure 4.8.1.2: Percent Land Area per Real Property Class

Table 4.8.1.2: Real Property Type Classification Code Descriptions

<table>
<thead>
<tr>
<th>Property Type Classification Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>Land used for the production of crops and/or as part of an operating farm, including but not limited to, livestock, horse farms, field crops, orchards, nurseries, greenhouses and other specialty farm products.</td>
</tr>
<tr>
<td>Residential</td>
<td>Property used for human habitation, i.e., one-family year-round residence, two family dwellings, mobile homes, or seasonal residences. Living accommodations such as hotels, motels, and apartments are in the Commercial category.</td>
</tr>
<tr>
<td>Commercial</td>
<td>Property used for the sale of goods and/or services. i.e., apartments, hotels, restaurants, automobile services, storage, retail stores, banks, offices, funeral homes, etc.</td>
</tr>
<tr>
<td>Industrial</td>
<td>Property used for the production and fabrication of durable and non-durable goods, such as mining, quarrying, manufacturing and processing.</td>
</tr>
<tr>
<td>Recreation &amp; Entertainment</td>
<td>Property used by groups for recreation, amusement, or entertainment such as theaters, racetracks, bowling centers, health spas, campgrounds, etc.</td>
</tr>
<tr>
<td>Community Services</td>
<td>Property used for the well-being of the community, i.e., schools, libraries, places of worship, cultural facilities, welfare services, hospitals, clinics, government, police, armed forces, correctional facilities, shelters, cemeteries, etc.</td>
</tr>
<tr>
<td>Public Services</td>
<td>Property used to provide services to the general public, i.e., electric or gas power generation or transmission, public drinking water and water treatment facilities, communications, train, plane, and bus terminals, canals, waste disposal sewer treatment, etc.</td>
</tr>
<tr>
<td>Wild, Forested, Conservation Lands &amp; Public Parks</td>
<td>Public or private property that is set aside for natural resources conservation, preserves, hunting and fishing clubs.</td>
</tr>
<tr>
<td>Vacant Land</td>
<td>Property that is not in use or lacks permanent improvements such as nonproductive agricultural land (not part of an operating farm), shell buildings without any interior finish in residential and commercial areas that are not used for living accommodations.</td>
</tr>
<tr>
<td>Unknown</td>
<td>Real property classification code is missing from the data provides.</td>
</tr>
</tbody>
</table>

Source: NYS Department of Taxation & Finance, Assessors’ Manual, property type classifications, updated: June 15, 2017. Real property tax data was obtained from Rensselaer and Columbia County’s Real Property Tax, Geographic Information System (GIS) parcel-based system. Accuracy and completeness of this information is not guaranteed, as the information is only updated only on an annual basis.
Community Plans
The former Albany-Hudson Electric Trolley line offers enormous opportunity to leverage a former railway, now utility corridor, into a vital community and regional asset. Once complete, the trail is expected to provide considerable benefits to the region, attracting visitors to the scenic landscapes and community centers dotting the corridor.

The need for additional trails and recreational assets has been clearly identified in a number of local Comprehensive Plans. The local governments are supportive of the proposed trail as it will link the communities together regionally and provide access and points of interest in each community.

Local Zoning
The proposed Albany-Hudson Electric Trail (AHET) crosses through two counties (Rensselaer and Columbia), one city, eight towns, and three villages. All of the involved communities that are along the proposed 36-mile-long trail have some level of local zoning and/or land use controls; however, it has been determined that the proposed project is not subject to local zoning and/or land use ordinances for the following key reasons:

1. The Hudson River Valley Greenway is a NYS entity, established in Article 44 of the Environmental Conservation Law.
2. As established in its enabling statutes, the Hudson Greenway is specifically charged with creating the Hudson Greenway Trail, a network of trails in the Hudson Valley.
3. The Albany-Hudson Electric Trail will be a segment of the Hudson Greenway Trail, and of the larger Empire State Trail.
4. National Grid has executed a license agreement authorizing the Hudson River Valley Greenway to construct the AHET Trail on its fee ownership ROW.
5. The Greenway will design, procure, and oversee construction of the AHET Trail, and has assumed lead agency status for the purposes of SEQRA, historic preservation review, and state and federal permit applications.
6. The enacted FY2017-18 NYS budget appropriates state capital funds to the Hudson Greenway to construct the Empire State Trail, including the AHET Trail, which is 100% state funded.

Environmental Impacts & Proposed Mitigation Measures
Although the project is exempt from local zoning and land use planning approvals, the HRVG committed to working collaboratively with the local governments. As discussed in Section 3.0, HRVG has offered public officials multiple opportunities to be a part of the planning and design process for the AHET route and will continue to engage with local officials as detailed engineering plans are completed.

4.8.2 LWRP Consistency Review

Environmental Setting
City of Rensselaer Local Waterfront Revitalization Program Update July 2011
A small portion of the proposed project is located within the City of Rensselaer NYS DOS Coastal Boundary and will therefore be subject to a Consistency Review to determine if the action is consistent with the coastal policies.

Environmental Impacts & Proposed Mitigation Measures
This project is consistent with the City of Rensselaer Local Waterfront Revitalization Program (LWRP) Update July 2011. In particular, Policy 1F:
To integrate the various waterfront area land uses, provide recreation and public access opportunities, and preserve waterfront lands through the development of an open space/trail system throughout the city's coastal area, linking existing neighborhoods and new development sites. The concept of the waterfront trail system and the development of key access points from the developed community to this trail system provides for a high level of linear and nodal public access to the waterfront for both city residents within and beyond the coastal area, as well as the users and occupants of new facilities. The overall Design Concept Plan of the LWRP reiterates that connections and linkages are not only important along the waterfront, but also between the waterfront and inland neighborhoods. A continuous, high-quality sidewalk system that connects neighborhoods with the waterfront trail should be created. Pedestrian and bicycle linkages between the future waterfront trail and residential neighborhoods and the central business district should be established. (City of Rensselaer Local Waterfront Revitalization Program Update July 2011, pgs 65, 69, 77, 93, 96)

The proposed northern segment of the AHET commencing in the City of Rensselaer at the Riverfront Park Trailhead is also consistent with and supported by the following Proposed Projects listed in the city’s LWRP:

**Continuous Multi-Use Waterfront Trail**: A proposed continuous waterfront trail has been identified as a priority project by the City for over two decades, though only small portions of this trail have actually been designed and installed to date. A trail segment exists in Riverfront Park... Future trail development should support the Hudson River Valley Greenway Trail and encourage additional opportunities for linkages to established trails, such as those in Troy, NY. (pg 96)

**Enhanced Pedestrian Linkages**: Ensuring pedestrians have a safe and direct route between destinations and sites is critical to generating more pedestrian activity, resulting in more foot traffic for businesses and creating a vibrant downtown. In particular, pedestrian linkages between the central business district and waterfront, should be strengthened to maximize use of existing and future waterfront destinations and amenities. Pedestrian oriented signage, lighting, and pavement markings should clearly direct people from the central business district to waterfront sites, including Riverfront Park, DeLaet’s Landing, waterfront trails and other publicly accessible sites as they are developed. (pg 102)

### 4.9 Consistency with Community Character

#### 4.9.1 Community Services

The Hudson River Valley Greenway (HRVG) completed Part 2 of the Full Environmental Assessment Form (FEAF) in order to help identify what, if any, impacts may occur as a result of the project. Completing Part 2 helped HRVG determine that a positive declaration was appropriate, and helped develop a list, or ‘scope' of environmental topics that would be addressed further in this DEIS. According to Part 2 of the FEAF, the proposed action may create a demand for additional community services (e.g. police/security, fire, ambulance, emergency rescue). The following section evaluates the potential extent of this impact and provides mitigation measures where necessary.

**Environmental Setting**

**Existing Emergency Response Services**

Table 4.9.1.1 provides an inventory of all the police, fire and ambulance services in each community along the AHET route (including NYS Police and County Sheriff Departments). It is expected that these local services have the capacity to services the trail. (See Figure 4.9.1)
<table>
<thead>
<tr>
<th>Municipality</th>
<th>Fire</th>
<th>Ambulance</th>
<th>Police</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Rensselaer</td>
<td>▪ Rensselaer Fire Department Station Number 2</td>
<td>▪ Rensselaer Volunteer Ambulance Service Inc (RVA)</td>
<td>▪ City of Rensselaer Police Department</td>
</tr>
<tr>
<td></td>
<td>▪ Rensselaer Fire Department North Station</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town East Greenbush</td>
<td>▪ Clinton Heights Fire Department Community Hose Company Station 2</td>
<td></td>
<td>▪ WF Buren Rescue Squad</td>
</tr>
<tr>
<td></td>
<td>▪ Clinton Heights Fire Department Bruen Hose Company Station 1</td>
<td></td>
<td>▪ East Greenbush Police</td>
</tr>
<tr>
<td></td>
<td>▪ East Greenbush Fire Department Main Station</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ East Greenbush Fire Department Station 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ East Greenbush Fire Department North Station 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Best Luther Volunteer Fire Company Station 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Best Luther Volunteer Fire Company Station 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Schodack</td>
<td>▪ Schodack Landing Fire Company</td>
<td>▪ Castleton Volunteer Ambulance Service Inc</td>
<td>▪ Schodack Police Department</td>
</tr>
<tr>
<td></td>
<td>▪ East Schodack Volunteer Fire Company</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Castleton Fire Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ South Schodack Volunteer Fire Company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village of Nassau</td>
<td>▪ Nassau Hose Company 1</td>
<td>▪ Nassau Ambulance</td>
<td>▪ Village of Nassau Police Department</td>
</tr>
<tr>
<td>Town of Nassau</td>
<td>▪ Nassau Hose Company 1</td>
<td>▪ Nassau Ambulance</td>
<td>▪ New York State Police</td>
</tr>
<tr>
<td></td>
<td>▪ Hoags Corners Volunteer Fire Company</td>
<td>▪ Hoags Corners Ambulance</td>
<td>▪ Rensselaer County Sheriff’s Department</td>
</tr>
<tr>
<td></td>
<td>▪ Tsatsawass Fire Company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Chatham</td>
<td>▪ North Chatham Fire Department</td>
<td></td>
<td>▪ New York State Police</td>
</tr>
<tr>
<td></td>
<td>▪ Tri Village Volunteer Fire Company Old Chatham Station 1</td>
<td></td>
<td>▪ Columbia County Sheriff’s Office</td>
</tr>
<tr>
<td></td>
<td>▪ Tri Village Volunteer Fire Company Chatham Center Station 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Tri Village Volunteer Fire Company Malden Ridge Station 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Kinderhook</td>
<td>▪ Niverville Volunteer Fire Department Station 1</td>
<td>▪ Valatie Rescue Squad, Inc.</td>
<td>▪ New York State Police</td>
</tr>
<tr>
<td></td>
<td>▪ Niverville Volunteer Fire Department Station 2</td>
<td></td>
<td>▪ Columbia County Sheriff’s Office</td>
</tr>
<tr>
<td>Village of Valatie</td>
<td>▪ Valatie Volunteer Fire Department</td>
<td>▪ Valatie Rescue Squad, Inc.</td>
<td>▪ New York State Police</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Columbia County Sheriff’s Office</td>
</tr>
<tr>
<td>Village of Kinderhook</td>
<td>▪ Kinderhook Fire Department Palmer Engineer and Hose Company</td>
<td>▪ Valatie Rescue Squad, Inc.</td>
<td>▪ New York State Police</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Columbia County Sheriff’s Office</td>
</tr>
<tr>
<td>Town of Stuyvesant</td>
<td>▪ Stuyvesant Fire Company 1</td>
<td>▪ Valatie Rescue Squad, Inc.</td>
<td>▪ New York State Police</td>
</tr>
<tr>
<td>Town of Stockport</td>
<td>▪ Stockport Volunteer Fire Company 1</td>
<td>▪ Greenport Rescue Squad, Inc.</td>
<td>▪ New York State Police</td>
</tr>
</tbody>
</table>
Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

All trails provide benefits and challenges. As discussed in Section 1, in addition to recreational opportunities, trails provide multiple benefits for individuals and communities and these benefits are measurable and definable. As the cost of operating an automobile increases – both monetarily and environmentally – trails accommodate safer and less expensive alternatives for people to commute between home and work. As our individual health is being thought of in a more holistic way, trails are at the forefront of offering a healthy lifestyle for both the mind and body. With many trails having their origins in the history of a community, they afford educational opportunities and a pride of place. Many communities are finding that trails are a component of their economic infrastructure and see businesses sprout from or enhanced by their existence. Trails are good for the environment, good for health, good for the economy, and help improve the quality of life in every community.

There are many considerations when designing, developing, and maintaining trails. During the public outreach process, members of the public expressed concern in the following areas. HRVG has considered these issues and has or will develop the following strategies or solutions to address each of the following community concerns.

- Community concern has been raised regarding the possibility of an increase in crimes (i.e., trespass, vandalism, burglaries, assaults, litter) near the proposed AHET trail.

Proposed Mitigation Measures: There are a large number of rail-trails and canalway trails in New York State. The universal experience is that these types of trails quickly become cherished community assets, enhancing quality of life and becoming the focus of community vitality and pride. HRVG is not aware of any increase in crime associated with trails. Fortunately, the experience of hundreds of miles of existing rail-trails across New York State demonstrates that commonly voiced concerns do not materialize. The HRVG has carefully listened to questions and concerns voiced during the public engagement process and has made modifications to the AHET Trail route where appropriate. HRVG will develop written trail use rules that will be posted along the trail and will seek the local municipalities’ input into the rules. In practice, trail use rules are straightforward (no motorized vehicles, do not enter private property adjacent to the trail, the trail is open dawn to dusk, etc.). HRVG anticipates adopting a single set of rules for the entire trail. County, town, and city law enforcement agencies will be the primary response agencies, with support from New York State agencies if needed.

Based on experiences on other rail-trails, there typically are not significant problems with people leaving the trail and entering private property. Trail users understand that adjacent land is private property, not to be entered without permission. To avoid potential trespass and parking issues, trailheads will be designed with sufficient space for parking, and a carefully crafted signage plan will be implemented to direct visitors to the nearest trailhead while signs on the trail or at trailheads can direct users to services and points of interest in the communities. The AHET Trail will include a number of features to reinforce the requirement that users respect private property. Rules emphasizing people are not allowed to enter adjacent property will be posted at trailheads. The trail will be 10-12 feet wide, whereas the National Grid ranges in width from 75 to 150 feet, providing a healthy buffer to private property (and natural vegetation growth will deter users from leaving the trail). Generally speaking, security or privacy fencing will not be installed along the trail corridor. However, in special circumstances the Greenway will consider installing additional signage, fencing, or vegetative plantings where warranted to mitigate trespass and privacy issues. New York State, like most states, has a Recreational Use Statute (General Obligation Law Section 9-103) that protects property owners from liability from

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Fire</th>
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<tr>
<td>Town of Greenport</td>
<td>▪ Stottville Fire Department</td>
<td>▪ Greenport Fire Department Pumper Company 1</td>
<td>▪ Columbia County Sheriff’s Office</td>
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<td>▪ Greenport Fire Department Pumper Company 3</td>
<td>▪ Greenport Rescue Squad, Inc.</td>
<td>▪ Greenport Police Department</td>
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hikers, bicyclists, and other trail activities on private property. The general experience of rail-trails across New York State is that users stay on the trails and respect adjacent private property.

- Community concern has been raised regarding how will law enforcement and emergency services (EMS) be provided on the trail.

**Proposed Mitigation Measures:** Although state law enforcement agencies will be available to provide strategic assistance, local police and EMS agencies will be the primary first responders. Typically, the level of police and EMS responses on rail-trails is low. The HRVG is compiling information on emergency incidents on other rail-trails in NYS, to share with involved agencies along the AHET route.

- Community concern has been raised regarding how law enforcement and emergency services (EMS) will be able to access the trail in case of an accident or emergency.

**Proposed Mitigation Measures:** The proposed trail will be designed to accommodate emergency vehicles while actively serving as a deterrent to unauthorized motor vehicles. At locations where the trail crosses public roadways, various treatments (signage, special curb cuts, and landscaping will be installed to restrict motor vehicle access yet easily allow emergency and service vehicle access. At most locations, bollards or gates will not be installed – national trail design standards have evolved and no longer recommend bollards or gates as a universal treatment. In a small number of locations where there is a high risk of intrusion by unauthorized cars, trucks, or unauthorized vehicles such as ATVs or snowmobiles, specially designed gates or bollards will be installed, placed, marked and designed to be safe and conspicuous. These treatments if used will be designed to be removable and/or hinged to permit entrance by emergency and service vehicles. If any locked gates are installed, keys will be provided to all emergency responders with the service area.

The trail surface will be designed to accommodate all emergency and services vehicles and be able to support a HS-20 (highway) loading for these occasional uses. The bridges will be designed in accordance with HS-25 loading to allow for the bridges to support all emergency and services vehicles and also allow for overall constructability of the trail system to support construction loading.

- Community concern has been raised regarding how the trail will impact property values.

**Proposed Mitigation Measures:** Many studies, including research conducted by Realtors associations, have found that multi-use trails are an amenity that increases property values and improve the quality of life for nearby residents. 29

- Community concern has been raised regarding how the trail be maintained, and who will be responsible for trail maintenance costs.

**Proposed Mitigation Measures:** The AHET Trail will be operated and maintained by a collaborative partnership including the Hudson River Valley Greenway, local county, town and village governments, and interested trail groups and volunteers. New York State will retain responsibility for long-term “capital maintenance” such as when asphalt and stone dust needs to be resurfaced or safety fencing needs to be replaced (typically once every 15+ years). However, the HRVG does not have staff to conduct regular maintenance, such as mowing a narrow strip of grass along the trail, which will need to be done regularly during the growing season. The HRVG is initiating conversations with local governments regarding trail maintenance agreements. Fortunately, regular maintenance needs are modest, and the fact that the trail crosses through a large number of towns and villages minimizes the impact on any single municipality. In addition, the HRVG will foster the development of partnerships and “friends” groups to encourage community involvement, promote stewardship, and assist with trail maintenance and support and pursue trail adoption programs for individuals and groups to assume maintenance responsibilities.

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5.0 GROWTH INDUCING IMPACTS – FISCAL AND ECONOMIC IMPACTS

Due to its geographic location in the Capital and Hudson Valley regions, it is anticipated that the communities along the trail may experience an increase in visitation from tourists throughout the year. There will be positive, on-going, economic impacts to the communities along the proposed trail in the form of increased business to gas stations, restaurants and convenience stores. Tourism-related expenditures for camping and day use activities that are offered nearby will be all the more important to the economic vitality of the area. It is likely that future trail users may bring additional revenue to lodging, dining, and other retail services within the host communities. The proposed trail may also result in some increased recreational use of local parks and community assets near the trail heads. A positive long-term impact will be increased tax local and state revenue from tourism.

Proposed Mitigation Measures

The proposed trail will not have an impact on the growth of the region. The proposed trail will attract new visitors to the region; however, this will bring positive economic impacts to the communities along the trail. There are no significant environmental impacts identified therefore no mitigation is necessary.
6.0. UNAVOIDABLE ADVERSE IMPACTS

Short-term Unavoidable Adverse Impacts

The planning, development and implementation of the AHET Trail including new trail construction; improvements to existing roadways for on-road delineation of the pathway; intersection/crossing improvements; bridge construction, and other actions proposed, will result in limited short-term unavoidable adverse impacts. These will be primarily construction related (e.g. fugitive dust, noise from construction equipment and vehicles, etc.). Other temporary impacts throughout the project are associated with access, staging, and construction activities.

Long-term Unavoidable Adverse Impacts

The proposed trail will result in some unavoidable adverse impacts in the form of minor impacts to regulated wetlands. Impacts to delineated wetlands within the corridor have been estimated based on a typical width or swath required for standards to be met for pedestrian and bicycle use. For a 25-foot wide corridor running the 36-mile distance of the Study Area, it is estimated that there would be 1.73 acres of permanent direct impact to wetlands. These impacts would primarily result from grading and filling in preparation for final path construction, at locations where the historic rail bed passes adjacent to or through wetlands areas. There would be additional permanent impacts within the 100-foot regulated adjacent area surrounding state wetlands. Although typically less significant than direct loss of wetland acreage, these adjacent area impacts would be quantified and included in any permit coverage pursued for the project.

Proposed Mitigation Measures

Wetland mitigation will be determined through the permitting process and as final acreage impacts are determined during final design. There are opportunities for innovative solutions to compensating for wetland loss. This includes mitigating for impacts to wetlands in the form of wetland restoration or enhancement on other properties in the general vicinity of the AHET trail. This may consist of habitat enhancements, financial support of conservation measures and purchases, wetland creation, or wetland or aquatic habitat restoration. If opportunities for cooperation between land conservation agencies does not materialize, then traditional methods of mitigation such as creation of new wetland acreage will be pursued. Replacement ratios will be determined during the final permitting process with the regulatory agencies. Wetland areas suffering temporary impacts would be fully restored and re-established to pre-impact condition through grading and seeding. These impacts would also be addressed during permitting.
7.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

At this time, it is not anticipated that the project will have any irreversible and irretrievable commitment of resources.
8.0 ANALYSIS OF ALTERNATIVES

8.1 Methodology

Consistent with the intent of the State Environmental Quality Review Act (SEQR), environmental considerations were among the criteria used in evaluating alternatives for the proposed trail route. Categories of impacts that were evaluated were: land resources, water resources, biological resources/ecology, historic and archeological resources, traffic and access, public health and safety, as well as growth and character of the community and neighborhood. The proposed trail route has been conceptually designed to minimize impacts in all of these areas. The AHET Trail Draft Concept Plan was issued on August 7, 2017. During the four-month period from August through December, the AHET Trail design team, comprised of staff from the Hudson Greenway (HRVG), Greenman-Pedersen, Inc. (GPI), and Alta Planning + Design (Alta), further studied the entire 36-mile route from the City of Rensselaer to the Town of Greenport, and carefully reviewed comments submitted by local officials, stakeholders, and members of the public. (See Appendix 3.0 to the Final Concept Plan, issued January, 2018, for a Summary of Public Comments). Changes to the trail alignment were made through this process. Factors such as safety considerations, mitigation of potential environmental impacts, and cost-effectiveness of trail construction methods influenced the decision-making process on the various alternatives. There are two alternatives described in this section. The first is the No Action Alternative and the second is covers the various alternative Build Alternatives considered in development of the final Preferred Alternative described in this DEIS.

8.2 No Action Alternative

Under this alternative, the AHET Trail would not be constructed. The National Grid ROW would remain exclusively used for utility transmission, and the existing roadways would remain in their current condition and would continue to operate as they are now. The No Action alternative would eliminate the benefits described previously. (See Section 1) The Capital and Hudson Valley regions would remain disconnected from the Empire State Trail, and the many benefits associated with trail development including health and well-being, transportation, safety, economic, environmental, and community benefits will remain unrealized.

8.3 Build Alternatives

The updated AHET Trail route is described in the detailed maps in this Final Concept Plan. (See Appendix 2.0). Overall, the AHET Trail remains largely the same to the original route proposed in the Draft Concept Plan, predominantly following the historic trolley corridor for over 78% of the route, now owned by National Grid. However, after further analysis, the design team revised the proposed trail route in discrete sections where appropriate. The specific changes to the route in the Final Concept Plan are described below, presented in “north to south” order.

City of Rensselaer

The Final Concept Plan utilizes the same AHET Trail route proposed in the Draft Concept Plan. There are no alternative options in the City of Rensselaer.

Town of East Greenbush

1. Southern Avenue. The August, 2017 Draft Concept Plan proposed to construct a separate off-road path on the National Grid ROW, parallel to Southern Avenue, from Hampton Avenue to Maryland Avenue, for a distance of four-tenths of a mile (2,027 feet). Further study has determined engineering challenges with constructing an off-road path in this section, including topography and wetlands issues. Furthermore, the extremely low volume and speed of vehicles on Southern Avenue make it safe for pedestrians and bicyclists to utilize the road in its current configuration. The Final Concept Plan eliminates this section of off-road path. Instead, the AHET Trail route will be designated as a shared
4.0. Environmental Setting, Potential Environmental Impacts & Proposed Mitigation Measures

pedestrian/bicycle roadway directly on Southern Avenue. At the southwest end of Southern Avenue, the AHET Trail route will shift back to be an off-road trail constructed on the National Grid ROW.

2. Off-Road Path Behind the Funplex. The AHET Trail route from Old Troy Road to Route 4 will be an off-road trail. A large gully exists behind the Funplex complex, creating a break in the trail that must be addressed. The August 2017 Draft Concept Plan proposed to install a bicycle/pedestrian bridge to span over the gully. Further analysis has determined that installing a culvert and placing fill to restore the ROW can meet applicable environmental standards and is a more cost-effective approach. The Final Concept Plan proposes to install a culvert, eliminating the need for a bridge at this location.

3. Route 4 Crossing. The prior Draft Concept Plan proposed to utilize a Circular Flashing Pedestrian Beacon (CFPB) at the location where the AHET Trail will cross Route 4. The design team collected data on traffic volumes and speeds at this location. The data indicates that a more robust crossing treatment is warranted. The Final Concept Plan proposes a High-Intensity Activated Crosswalk (HAWK) signal to be installed to provide for pedestrian and bicycle safety at this location. The AHET Trail design team will further consult with NYSDOT before finalizing the appropriate Route 4 crossing treatment.

4. Berkshire Drive and Tamarack Lane. A half-mile section of the National Grid ROW between Point View Drive and Greenwood Drive is not conducive to constructing an off-road trail. At some point in the past, portions of the trolley bed were removed, and a series of drainage structures were installed to collect stormwater run-off. The August 2017 Draft Concept Plan proposed using Berkshire Drive and Highland Drive as the on-road AHET Trail route to bypass the unusable ROW section. Upon further study, the design team concluded Berkshire Drive is not desirable as the designated AHET Trail route, due to its narrow pavement width (20 feet), prevalence of on-street parking, steep grades and sight distance concerns, deteriorated sidewalks in some locations, and potential traffic and parking conflicts with an adjacent private school and church. The design team concluded that Tamarack Lane provides the best on-road route in this location, due to its wider width (32-35 feet), low traffic volumes and speeds, better sign distances, and overall roadway configurations. The Final Concept Plan identifies Tamarack Lane as the on-road AHET Trail connecting route between Point View Drive and Greenwood Drive.

5. East Greenbush Trailhead. The Final Concept Plan recommends an existing DOT-owned parking lot, located on the southeast side of Clinton Street where it intersects with Route 20, be designated an AHET Trail Trailhead parking location. This is an additional trail head location to supplement the proposed location within the City of Rensselaer located at Riverfront Park.

Town of Schodack

6. Miller Road Crossing. The AHET Trail will cross Miller Road slightly to the west of the Exit 10 Interchange on I-90. The design team evaluated numerous options to develop the proper treatment to provide a safe pedestrian and bicycle crossing of Miller Road. The Final Concept Plan anticipates installation of a High-Intensity Activated Crosswalk (HAWK) signal at the intersection of Miller Road and Empire State Boulevard. The AHET Trail design team will further consult with the Town and NYSDOT before finalizing the Miller Road crossing treatment.

7. East Schodack. The August 2018 Draft Concept Plan proposed to designate an on-road section of the AHET Trail route along State Route 150 and County Route 7 in East Schodack, with pedestrians and bicyclists using the shoulders of the roads for a distance of one-half mile (the on-road section would have avoided the need to replace a missing bridge and skirt a small substation on this section of National Grid ROW). Upon further study, the design team concluded these roads are not desirable for the AHET Trail route: both have narrow shoulders; Route 150 has high traffic speeds and volume; and the “triangle intersection” where County Route 7 meets Route 150 presents challenges for pedestrian and bicycle safety in addition to the very narrow ROW along in this area which restricts potential for improvements. Accordingly, the Final Concept Plan proposes constructing an off-road trail on the National Grid ROW from Route 150 to the intersection with East Hill Road. The National Grid ROW is sufficiently wide to accommodate construction of the trail around the existing substation and a new bridge will be installed across the Moordener Kill. The AHET Trail route will
then run southeast on East Hill Road for 700 feet, which is a very low traffic road that services a small number of residences (no changes will be made to the road other than installation of AHET Trail directional signage). After the short East Hill Road section, the AHET Trail will continue southeast as an off-road trail on the National Grid ROW.

8. West of Nassau Lake. The August 2017 Draft Concept Plan proposed constructing an 1,100-foot section of off-road trail on the National Grid ROW, from the intersection of Trolley Way and Long Branch Road, to a point where the trail crosses over County Route 7. Several issues (including septic fields on the ROW) have been identified relating to residences built immediately adjacent to National Grid’s property. The Final Concept Plan continues to identify the AHET Trail route as off-road trail on the National Grid alignment from Long Branch Road to County Route 7 (no change from the Draft Concept Plan); however further study will be required during the engineering design phase to consider constraints at this location.

9. Schodack Trailhead. The location of the proposed Schodack Trailhead as originally proposed in the draft concept plan was situated along Reno Road. Significant grading along with ROW challenges prevent construction of the trail head in this location. A new location is now proposed south along County Route 7 on Rensselaer County property. This new proposed Trailhead is located on a vacant county-owned parcel adjacent to County Route 7.

Village of Nassau

The Final Concept Plan utilizes the same AHET Trail route proposed in the Draft Concept Plan. An informal access driveway south of Albany Avenue (Route 20) in Nassau will be utilized as a paved shared roadway.

Town of Nassau

The Final Concept Plan utilizes the same AHET Trail route proposed in the Draft Concept Plan. There are no changes in the Town of Nassau.

Town of Chatham

10. North Chatham to Electric Park Road. The August, 2017 Draft Concept Plan proposed that the AHET Trail route be constructed as an off-road trail, on the National Grid ROW, from County Route 32 in North Chatham to Little Lake Road. South of Little Lake Road, the August, 2017 Draft Concept Plan proposed the AHET Trail route be designated on the shoulders of State Route 203 for three-quarters of a mile (4,000 feet). Use of Route 203 would avoid the need to install a new bridge over the Valatie Kill. The design team has carefully studied Route 203, and concluded it is not desirable for pedestrians and bicycles due to narrow shoulders and high traffic speeds (posted 55 mph). Widening State Route 203 to provide improved trail user conditions would require ROW property acquisition, relocation of numerous utility poles, reconfiguration of private driveways, and additional impacts to adjacent residences. Accordingly, the Final Concept Plan proposes a continuous off-road path from Route 32 in North Chatham to the point where it intersects with Electric Park Road, including utilizing the National Grid ROW south of Little Lake Road. This change will require installation of a missing bridge across the Valatie Kill, and significant grading of the trolley alignment embankment north and south of Little Lake Road.

Town of Kinderhook and Villages of Kinderhook and Valatie

11. Village of Valatie. The Final Concept Plan continues to designate the AHET Trail as an off-road trail north and south of Main Street in Valatie, where Main Street intersects with Route 9. An ADA compliant ramp will be added at the intersection of the off-road trail and Main Street adjacent to the historic Depot structure. The design team continues to evaluate the preferred road crossing design for providing safe passage for pedestrians and bicyclists through the Main Street/Route 9 intersection.

12. Village of Kinderhook. The August, 2017 Draft Concept Plan proposed a trailhead parking area be created at Mills Park. The Final Concept Plan proposes locating the trailhead parking area at a different location – at Rothermel Village Park, where the village playground and little league fields are located. The new location is much larger and can
better accommodate trail parking and provides access to existing park amenities including seasonal restrooms and picnic tables. Also in Kinderhook, the Final Concept Plan anticipates more robust trail crossings (Rapid Rectangular Flashing Beacons) where the AHET Trail crosses Albany Avenue and Eichybush Road in the Village and anticipates using the Historic Society ROW from Albany Avenue bypass a section of the National Grid transmission line where ROW limits restrict placement of the trail.

**Town of Stuyvesant**

13. Smith Road and Sunnyside Road. The August, 2017 Draft Concept Plan identified several options for the AHET Trail south of Smith Road. The design team has eliminated consideration of developing an off-road trail on the National Grid ROW immediately south of Smith Road. The ROW in this location passes directly adjacent to a large dairy farm operation and buildings located on both sides of the corridor, creating an unsafe condition for trail users. The Final Concept Plan identifies Trail as a separated side path along Smith Road to the intersection of Route 9 and will continue as a separated side path for a short distance south along the west side of Route 9; the route will then cross Route 9 and follow Sunnyside Road south until it intersects with the National Grid ROW; from that point the trail will be constructed as an off-road path running south on the National Grid ROW. A safe crossing treatment will be designed where trail users cross Route 9 at Sunnyside Road.

14. Stuyvesant Falls. The August, 2017 Draft Concept Plan proposed the AHET Trail would include a short on-road section on Route 25A and Woods Lane. Further study by the design team has determined the National Grid ROW is suitable for an off-road trail at this location. The Final Concept Plan eliminates the on-road route at this location; instead an additional 500-foot section of off-road trail will be built on the ROW from Route 25a to New Street, including appropriate trail crossings at Route 25A, Frisbee Lane, and New Street. Also, a small new trailhead parking area is proposed at Stuyvesant Falls.

15. Hamlet of Stockport. The AHET Trail route includes a 1.83-mile on-road section utilizing Rossman Road, Route 25, and Urban Road in the hamlet of Stockport. The National Grid ROW is not usable for an off-road trail in this section because large railroad bridges that once spanned long distances across the Kinderhook Creek and Claverack Creek no longer exist and installing new bridges is cost-prohibitive and would potentially have significant environmental impacts to the stream beds of both creeks. The August, 2017 Draft Concept Plan proposed several short sections of off-road trail that would be built on parts of the National Grid ROW in this area. However, further study by the design team has concluded that real property ROW ownership issues and additional engineering issues including drainage and wetlands preclude development of these short off-road sections. Accordingly, the Final Concept Plan identifies this entire AHET Trail section as an on-road route along Rossman Road, Route 25, and Urban Road. In this stretch, bicyclists and pedestrians will travel on the road shoulders, as a shared roadway largely in their current condition. Signage will be installed informing motorists to be alert for bicyclists and pedestrians. Traffic calming measures as outlined in the EST Deign manual in consultation with Columbia County will be investigated as part of the final construction plans for the Trail.

**Town of Stockport and Town of Greenport**

16. New Off-Road Trail South of Stottville. The August, 2017 Draft Concept Plan proposed that the off-road portion of the AHET Trail would end where the National Grid ROW intersects with Atlantic Avenue (County Route 20) in Stottville. From there, the August, 2017 Draft Concept Plan proposed the AHET Trail would be an on-road route along Atlantic Avenue, Fairview Avenue, Joslen Boulevard, and Harry Howard Avenue into the City of Hudson. Further study by the design team has concluded: a) Atlantic Avenue, Fairview Avenue, and the northern part of Joslen Boulevard have relatively high traffic volumes and speeds and narrow shoulders, making them less desirable for bicyclists and pedestrians; and b) an off-road trail can be constructed on the National Grid ROW for a significant distance south of Stottville. Accordingly, south of Stottville, the Final Concept Plan proposes the AHET Trail route will continue as an off-road trail running south of Atlantic Avenue through Stockport and into Greenport (the new off-road trail segment will be two miles long). The off-road trail will end at the intersection with Kipp Lane (southern driveway). At that point, the
AHET Trail will follow a new separated side path for a short distance (700 feet) along the east side of Fairview Avenue. Continuing the AHET Trail as an off-road path on the National Grid Row south of Atlantic Avenue creates an additional two miles of off-road trail, thereby eliminating the need to locate the route on-road for a distance of 2.2 miles on Atlantic Avenue, Fairview Avenue, and the north part of Joslen Boulevard.

17. Stottville Trailhead. The Final Concept Plan proposes to create a trailhead parking area in Stottville at the existing town park and little league field on Park Place. The plan anticipates installing improved parking facilities, amenities, and landscaping where cars currently are parked adjacent to the ballfield on Park Place (designation of the trailhead is contingent upon approval by the Town).
APPENDICES - VOLUME 1

3.1: Public Outreach
   HRVG AHET Trail Project Overview Presentation, August 2017
   Public Outreach Maps (Figures 3.1.1 – 3.1.9)

3.2: Project Website and Additional Communications
   Project Flyer
   Project Updates (fall 2017 and winter 2018)

4.1.1: Topography and Slope
   Areas of Greater Than 15% Slopes (Map Series - Figures 4.1.1.1 – 4.1.1.9)

4.1.2: Surficial Geology and Soils
   General Soils Map (Figure 4.1.2.1)

4.1.3: Bedrock Geology
   Location of Bedrock Less Than 5’ Below Existing Ground Surface Map (Figure 4.1.3.1)

4.1.4: Erosion and Stormwater
   Stormwater Disturbance Areas (Map Series – Figures 4.1.4.1 – 4.1.4.9)

4.2.1: Freshwater Wetlands
   Mapped Federal and State Wetlands (Map Series – Figures 4.2.1.1 – 4.2.1.9)

4.2.2: Surface Waterbodies
   NYSDEC Classified Streams (Map Series – Figures 4.2.2.2 – 4.2.2.9)
   See Wetland Delineation and Ecological Report, February 2018 (contained in Appendix 4.2.1)

4.2.3: Floodplains
   Floodplains (Map Series – Figures 4.2.3.1 – 4.2.3.9)

4.3: Plants and Animals
   Wetland Delineation and Ecological Report, February 2018 (See Appendix Volume 2 - 4.2.1)

4.4: Agricultural Resources
   Agricultural Districts (Map Series – Figures 4.4.1 – 4.4.9)
   Existing Parcels Adjacent to AHET Route within the NYS Agricultural District (Figure 4.4.10)

4.6: Transportation
   AHET Berkshire Neighborhood Alternative Route Evaluation, October 2017
   AHET Traffic Analysis and Evaluation, November 2017

4.8.1: Local Planning and Zoning
   Existing Land Use (Map Series Figures 4.8.1.1 – 4.8.1.9)

4.9.1: Community Character
   Emergency Services (Map Series Figures 4.9.1.1 – 4.9.3)
Welcome + Agenda

• Introductions
• Hudson River Valley Greenway
• Empire State Trail
• Trail Benefits
• AHET Trail History
• Facility Types
• Draft Concept Plan
• Open House
AHET Trail Website

www.AHETtrail.org

- Download Draft AHET Concept Plan
- Download this presentation
- Submit written comments
Empire State Trail Initiative

- New York State initiative launched by Governor Cuomo in 2017
- 750-mile bicycle and walking trail connecting communities spanning the state
- New York City to Canadian border and Buffalo to Albany
- EST will be completed by the end of 2020
- When completed, EST will be longest multi-use trail in the nation
- The Governor and legislature have provided $200 million in state funding.
Empire State Trail Initiative
AHET Trail Route

Counties
Rensselaer County
Columbia County

Towns
East Greenbush
Schodack
Nassau
Chatham
Kinderhook
Stuyvesant
Stockport
Greenport

Cities and Villages
Rensselaer
Hudson
Nassau
Valatie
Kinderhook
AHET Trail Benefits

- Health and Well-Being
- Transportation
- Tourism
- Economic Development
- Education
- Environment
- Safety
- Community Vitality
- Civic Engagement
Albany Hudson Electric Trail
Stuyvesant Falls
AHET Project Schedule

AHET Existing Conditions

Empire State Trail Initiative

Public Meetings (Summer and Fall)

Design

Construction

AHET Trail Complete

2017

2018

2019

2020
Albany-Hudson Electric Trolley

- Historic Albany-Hudson Electric Trolley line
- Connected communities (14 stops) from the City of Albany to the City of Hudson from 1899 to 1929
- Powered by electricity supplied by the Stuyvesant Falls hydro-electric power plant.
Albany-Hudson Electric Trail

- Today, the former trolley line corridor is owned by National Grid
- Proposed trail is 35 miles
- Runs from the City of Rensselaer to the City of Hudson
- 25 miles off road facilities, 10 miles on road facilities
Prior Planning Studies

- AHET Study (Rensselaer County)
  - Feasibility Study completed in 2011

- KSS study (Columbia County)
  - Feasibility Study completed in 2010

- Continued work by local communities toward implementation
National Grid Partnership

- National Grid owns the AHET corridor (continuous fee ownership)
- National Grid has agreed to allow the Hudson River Valley Greenway to construct and operate the trail.
- The Greenway will enter into agreements with local governments and trail groups to maintain the trail.
AHET Recreation

• Public Trail Uses
  – Pedestrians (walking, running, strollers)
  – Bicycles
  – Cross-country skiing/snowshoeing
  – All trail segments are ADA compliant (wheelchairs, walkers, canes)

• Not Allowed
  – Motorized vehicles (ATV, snowmobile)
  – Equestrian
Opportunities and Challenges
Facility Types and Amenities
Shared Use Path

Urban/Suburban - 10 to 12’ paved

Rural – 10’ stone dust
On-Road Facilities

- Shared road
- Paved shoulder
- Bike lane
- Pre-fabricated bridge
- Marked crosswalks with yield lines
- Rapid Rectangular Beacon (RRFB)
- Sidewalk
- Flash
The Trail Route
Trail Route

Counties
Rensselaer County
Columbia County

Towns
East Greenbush
Schodack
Nassau
Chatham
Kinderhook
Stuyvesant
Stockport
Greenport

Cities and Villages
Rensselaer
Hudson
Nassau
Valatie
Kinderhook
Rensselaer County
Trailheads

- 8 trailheads proposed to allow easy access to the trail
- Wayfinding and interpretive signage
- Possible amenities such as bike repair stations, benches, picnic tables, and bike racks

Potential Trailheads

- Rensselaer Riverfront Park, Rensselaer
- Hampton Road, East Greenbush
- Reno Road, Schodack
- Nassau Lake, Schodack
- Nassau Village Commons Park, Nassau
- Main Street, Niverville
- Mills Park, Kinderhook
- Stottville Park/Atlantic Ave, Stottville
Trail Design and Construction Costs

- Funded by New York State/Empire State Trail
- Manage trail design and construction
- Implement drainage and utility work
- Provide improvements at road crossings
- Construct on-road segments of trail
- Provide trail amenities (trailheads, site furniture, etc.)

$35M - $40M
Next Steps

- 12-month public input process
- Finalize AHET Concept Plan (Fall 2017)
- Initiate detailed engineering designs and plans (Fall 2017)
Provide Your Feedback

- **Open House tonight**
  - Trail overview map
  - Section maps
  - Trail Maintenance/Local partners

- **Online**
  - [www.AHETtrail.org](http://www.AHETtrail.org)
  - Download Draft AHET Concept Plan
  - Download this presentation
  - Submit written comments
Thank you for coming!

www.AHETtrail.org
Figure 3.1.1
Public Outreach: City of Rensselaer - Rensselaer County
Figure 3.1.2
Public Outreach: Town of East Greenbush - Rensselaer County

Legend
- Comment Received & Responded
- Shared Use Path
- Sidewalk
- Bike Lane
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 3.1.3
Public Outreach: Town of Schodack - Rensselaer County

Legend
- Comment Received & Responded
- Shared Use Path
- Sidewalk
- Bike Lane
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

Additional AHET Portion
Town of Schodack (0.40 miles)

January 22, 2018
Figure 3.1.4
Public Outreach: Town & Village of Nassau - Rensselaer County

Legend
- Comment Received & Responded
- Shared Use Path
- Sidewalk
- Bike Lane
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 3.1.5
Public Outreach: Town of Chatham - Columbia County
Figure 3.1.7
Public Outreach: Town of Stuyvesant - Columbia County

Legend
- Comment Recieved & Responded
- Shared Use Path
- Sidepath
- Sidewalk
- Bike Lane
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 3.1.8
Public Outreach: Town of Stockport - Columbia County

Legend
- Comment Received & Responded
- Shared Use Path
- Sidewalk
- Bike Lane
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 3.1.9
Public Outreach: Town of Greenport - Columbia County

Legend
- Comment Received & Responded
- Shared Use Path
- Sidewalk
- Bike Lane
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

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Appendix 3.2

Project Website and Additional Communications
The Albany Hudson Electric Trail (AHET) will be a shared-use bicycling and pedestrian path along the 35 mile Albany-Hudson Electric Trolley corridor, which serves presently as a National Grid transmission corridor from Hudson, NY to Rensselaer, NY. The Trail is set to be completed in 2020.

**AHET Trail Benefits**

The Albany Hudson Electric Trail will bring a number of benefits to surrounding communities:

- Improved health and well-being
- Increased transportation options
- Positive economic benefits related to recreation-based tourism
- Outdoor learning opportunities for children and adults
- Safe recreation opportunities for all
- Opportunities to form a sense of community

**Empire State Trail Initiative**

The AHET is an important part of the Empire State Trail, providing a key link between the Capital Region and the Mid-Hudson Valley.

The Empire State Trail, when completed in 2020, will create a 750-mile shared-use bicycling and pedestrian path from New York City to Canada and from Albany to Buffalo.
The Route
The AHET crosses through two counties, eight towns, and five cities and villages. Along the route, the trail goes through historic communities in the rural landscape of the Hudson Valley, including orchards, village Main Streets, shops and restaurants, historic sites, and other locations.

Timeline and Next Steps
Through the summer of 2018, the project team will host various meetings to solicit input on the project. Design will occur in 2018 and construction will be from 2019 to 2020.

Over the next several months, members of the design team will be working along the National Grid powerline Right of Way and along public streets in your area gathering data on the proposed trail alignment and existing facilities. This work is in conjunction with the AHET and as a normal course of business, our crews may set stakes and/or place flagging at locations necessary to accomplish this work. Our team will attempt to contact you prior to commencing work. Should you have any questions, concerns, and/or would like to schedule a property meeting with members of the design team, they can be reached at (518) 898-9595, or written comments can be submitted at:

www.AHETtrail.org
The Hudson River Valley Greenway and our consultants – GPI/Greenman-Pedersen, Inc. and Alta Planning + Design – continue to make good progress in planning the Albany-Hudson Electric Trail (AHET). This email provides an update on recent activities. Comprehensive information about the project is available on our website: www.AHETtrail.org

Thank you to those that have submitted questions, concerns, and support regarding the AHET Trail. We have heard a variety of voices and ideas from local residents, community leaders, town and village staff, and elected and appointed officials over the last two months. The team continues to be committed to a transparent process and working to address local concerns.

Since the AHET outreach meetings began in August 2017, the project team has been recording and reviewing public comments through the website, and more recently, through a call-in number at (518) 898-9595. We have collected more than 200 comments through email, website and phone line. The Frequently Asked Questions on the AHET website have been updated to add responses to some common questions or concerns.

Our planning team has been completing on-site meetings with adjacent landowners to hear questions and concerns and share information on the trail design process. The project team has also attended public meetings hosted by town and village boards and stakeholder groups in order to hear and address questions and concerns from elected officials and residents about the project.
So far, the team has conducted or attended 12 meetings and have visited nearly 50 individual properties. Additional public meetings will occur in the coming months. In October, a mailing was sent to all property owners adjacent to the proposed AHET route.

An aerial survey has been conducted and ground teams are collecting other existing data such as survey control, wetlands, and cultural resources. The Empire State Trail Design Guide has been published and is available on both the Greenway and AHET project website. Preliminary design work will commence in early December 2017 once survey is complete.

The Hudson River Valley Greenway has initiated environmental review pursuant to the State Environmental Quality Review Act (SEQRA). The Hudson River Valley Greenway’s draft SEQRA scoping document is available on the project website and is presently going through a 30 day public review that started October 20, 2017. Please comment on the document through the AHET website listed above. A Draft Environmental Impact Statement (DEIS) will be released for public review and comment this spring.

The Greenway’s schedule calls for final engineering designs to be completed in October 2018, and construction will commence in early 2019. The AHET Trail is slated to be completed by the end of 2020.

Are you interested in knowing what comes next? Community outreach will be outgoing throughout the project, and we appreciate your comments. The website will be updated regularly with new meeting times and locations and project documents when available. www.ahettrail.org.
January 10, 2018

The Hudson River Valley Greenway and our consultants – GPI/Greenman-Pedersen, Inc. and Alta Planning + Design – continue the initial design of the Albany-Hudson Electric Trail (AHET). This email provides an update on recent activities and documents. Comprehensive information about the project is available on our website: www.AHETtrail.org

Review/Response to Public Comments

In August, 2017, the Hudson River Valley Greenway initiated the public input process for the AHET Trail. During the four-month period through December, 2017, the Greenway held 14 public informational meetings that were attended by more than 750 people, and received over 220 specific written comments submitted to the AHET Trail website and a call-in telephone number.

The AHET project team wants to thank the many local officials, community organizations, and interested members of the public that provided comments and concerns. Appendix A of the AHET Final Concept Plan provides a detailed summary and response to the most frequently heard comments, questions, and concerns. Additional public meetings will occur in the coming months, and throughout the design process.

Final Concept Plan Issued

In early January, the Hudson River Valley Greenway issued the AHET Trail Final Concept Plan, which can be viewed and downloaded from the ”Documents” section of the project website www.AHETtrail.org. The Final Concept Plan identifies the most up-to-date Trail route and associated facilities along the 35-mile route from Hudson, NY to Rensselaer, NY. Appendix B provides a summary of route changes that have occurred since the draft AHET Concept Plan was issued in August.

Environmental Review

The Hudson River Valley Greenway has initiated environmental review pursuant to the
State Environmental Quality Review Act (SEQRA). The Hudson River Valley Greenway’s draft SEQRA scoping document has gone through a 30 day public review that finished November 15, 2017. A Draft Environmental Impact Statement (DEIS) will be released for public review and comment this spring. A formal public hearing on the DEIS is scheduled for March 28, 2018 (snow day April 4, 2018) at Ichabod Crane High School. Details regarding the time and meeting format will be posted on the project website.

**Engineering Design Begins**

The project team has initiated development of preliminary engineering design drawings for the AHET Trail. Preliminary design plans will be shared with local governments and interested residents starting in late spring, 2018. The Hudson River Valley Greenway anticipates completing final design documents and bidding construction contracts in the fall of 2018. Construction will commence in early 2019, and the AHET Trail is slated to be completed by the end of 2020.

*Are you interested in knowing what comes next?*

Community outreach will be ongoing throughout the project, and we appreciate your comments. The website will be updated regularly with new meeting times and locations and project documents when available at [www.AHETtrail.org](http://www.AHETtrail.org).
Appendix 4.1.1

Topography and Slope
Figure 4.1.1.1
Areas of Greater Than 15% Slope: City of Rensselaer - Rensselaer County

Legend
- Area of 15% Or Greater Slope
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridges
- Large Washout
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.1.1.2
Areas of Greater Than 15% Slope: Town of East Greenbush - Rensselaer County

Legend
- Area of 15% Or Greater Slope
- Proposed Bridges
- Large Washout
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Stream
- Village Boundary
- Town Boundary
- County Boundary

Town of East Greenbush Trail Slope Statistics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trail Mileage</td>
<td>6.28 miles</td>
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<tr>
<td>Length of Trail With Side Slopes &gt;15%</td>
<td>2.68 miles</td>
</tr>
<tr>
<td>Percentage With &gt;15% Side Slopes:</td>
<td>42.68%</td>
</tr>
</tbody>
</table>

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Figure 4.1.1.2a
Funplex Washout: Town of East Greenbush - Rensselaer County

Legend
- Areas of >15% Slope
- Trail Alignment
- 10ft Lidar Contours
- 2ft Lidar Contours

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Figure 4.1.1.3
Areas of Greater Than 15% Slope: Town of Schodack - Rensselaer County

Legend
- Area of 15% Or Greater Slope
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Town Boundary
- County Boundary

Town of Schodack Trail Slope Statistics
- Total Trail Mileage: 7.60 miles
- Length of Trail With Side Slopes >15%: 4.58 miles
- Percentage With >15% Side Slopes: 63.42%

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Figure 4.1.1.3a: Bridge 1
Areas of Greater Than 15% Slope: Town of Schodack - Rensselaer County

Legend
- Red: Areas of >15% Slope
- Blue: Trail Alignment
- Green: 10ft Lidar Contours
- Yellow: 2ft Lidar Contours

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**Legend**
- Red: Area of 15% Or Greater Slope
- Green: Shared Use Path
- Yellow: Sidewalk
- Blue: Bike Lanes
- Purple: Walk/Bike Roadway
- Black: Shared Roadway
- Orange Diamond: Proposed Bridges
- Orange Triangle: Large Washout
- Blue Line: Stream
- Brown Line: Village Boundary
- Brown Line with Dots: Town Boundary
- Brown Line with Dots and Dashes: County Boundary

**Figure 4.1.1.4**
**Area of Greater Than 15% Slope: Town & Village of Nassau - Rensselaer County**

**Village of Nassau Trail Slope Statistics**
- Total Trail Mileage: 0.98 miles
- Length of Trail With Side Slopes >15%: 0.44 miles
- Percentage With >15% Side Slopes: 45.90%

**Town of Nassau Trail Slope Statistics**
- Total Trail Mileage: 1.81 miles
- Length of Trail With Side Slopes >15%: 1.38 miles
- Percentage With >15% Side Slopes: 76.24%
Figure 4.1.1.4a: Bridge 2
Areas of Greater Than 15% Slope: Village of Nassau - Rensselaer County

Legend
- Areas of >15% Slope
- Trail Alignment
- 10ft Lidar Contours
- 2ft Lidar Contours

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Figure 4.1.1.4b: Bridge 3  
Areas of Greater Than 15% Slope: Village of Nassau - Rensselaer County

Legend
- Areas of >15% Slope
- Trail Alignment
- 10ft Lidar Contours
- 2ft Lidar Contours

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Figure 4.1.1.4c: Bridge 4
Areas of Greater Than 15% Slope: Town of Nassau - Rensselaer County

Legend
- Areas of >15% Slope
- Trail Alignment
- 10ft Lidar Contours
- 2ft Lidar Contours

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Town of Stockport Trail Slope Statistics

<table>
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<tr>
<th>Total Trail Mileage</th>
<th>3.25 miles</th>
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<td>Length of Trail With Side Slopes &gt;15%</td>
<td>2.03 miles</td>
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<td>Percentage With &gt;15% Side Slopes:</td>
<td>62.65%</td>
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Figure 4.1.1.5
Areas of Greater Than 15% Slope: Town of Chatham - Columbia County

Legend
- Red: Area of 15% or Greater Slope
- Green: Shared Use Path
- Yellow: Sidewalk
- Black: Bike Lanes
- Purple: Walk/Bike Roadway
- Pink: Shared Roadway
- Orange: Proposed Bridges
- Orange Triangle: Large Washout
- Blue: Stream
- Gray: Village Boundary
- Red: Town Boundary
- Orange: County Boundary

Total Trail Mileage: 3.25 miles
Length of Trail With Side Slopes >15%: 2.03 miles
Percentage With >15% Side Slopes: 62.65%
Figure 4.1.1.5a: Bridge 5
Areas of Greater Than 15% Slope: Town of Chatham - Columbia County
Figure 4.1.1.6
Areas of Greater Than 15% Slope: Town of Kinderhook, Village of Valatie, & Village of Kinderhook - Columbia County

Legend
- Red: Proposed Bridges
- Triangle: Large Washout
- Blue: Stream
- Black: Village Boundary
- Grey: Town Boundary
- Orange: County Boundary

<table>
<thead>
<tr>
<th></th>
<th>Town of Kinderhook Trail Slope Statistics</th>
<th>Village of Kinderhook Trail Slope Statistics</th>
<th>Village of Valatie Trail Slope Statistics</th>
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<tr>
<td>Total Trail Mileage</td>
<td>2.45 miles</td>
<td>1.86 miles</td>
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<td>1.25 miles</td>
<td>0.50 miles</td>
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<td>Percentage With &gt;15% Side Slopes:</td>
<td>51.02%</td>
<td>26.88%</td>
<td>33.48%</td>
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Refer to Appendix 4.1.1 Figure 4.1.1.6a

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Figure 4.1.1.6a: Bridge 6
Areas of Greater Than 15% Slope: Town of Kinderhook - Columbia County

Legend
- Red: Areas of >15% Slope
- Gray: Trail Alignment
- Green: 10ft Lidar Contours
- Orange: 2ft Lidar Contours

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Figure 4.1.1.7
Areas of Greater Than 15% Slope: Town of Stuyvesant - Columbia County

Legend
- Area of 15% Or Greater Slope
- Proposed Bridges
- Large Washout
- Shared Use Path
- Stream
- Sidewalk
- Village Boundary
- Bike Lanes
- Town Boundary
- Walk/Bike Roadway
- County Boundary
- Shared Roadway

<table>
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<th>Town of Stuyvesant Trail Slope Statistics</th>
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<td>Total Trail Mileage</td>
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<tr>
<td>Length of Trail With Side Slopes &gt;15%</td>
</tr>
<tr>
<td>Percentage With &gt;15% Side Slopes</td>
</tr>
</tbody>
</table>

Total Trail Mileage
2.71 miles
Length of Trail With Side Slopes >15%
1.28 miles
Percentage With >15% Side Slopes
47.23%

Total Trail Mileage
2.71 miles
Length of Trail With Side Slopes >15%
1.28 miles
Percentage With >15% Side Slopes
47.23%

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Figure 4.1.1.8
Areas of Greater Than 15% Slope: Town of Stockport - Columbia County

Legend
- Area of 15% Or Greater Slope
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridges
- Large Washout
- Stream
- Village Boundary
- Town Boundary
- County Boundary

Table: Town of Stockport Trail Slope Statistics

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<th>Category</th>
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<td>Total Trail Mileage</td>
<td>5.56</td>
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<tr>
<td>Length of Trail With Side Slopes &gt;15%</td>
<td>3.22</td>
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<tr>
<td>Percentage With &gt;15% Side Slopes</td>
<td>57.91%</td>
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</table>
Figure 4.1.1.8a
Keil Road Washout: Town of Stockport - Columbia County

Legend
- Areas of >15% Slope
- Trail Alignment
- 10ft Lidar Contours
- 2ft Lidar Contours
- Washouts

January 22, 2018
Town of Greenport Trail Slope Statistics

<table>
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<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Total Trail Mileage</td>
<td>1.65 miles</td>
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<tr>
<td>Length of Trail With Side Slopes &gt;15%</td>
<td>1.22 miles</td>
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<td>Percentage With &gt;15% Side Slopes:</td>
<td>73.90%</td>
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Figure 4.1.1.9
Areas of Greater Than 15% Slope: Town of Greenport - Columbia County
Figure 4.1.2.1
General Soils Map: Albany-Hudson Electric Trail (AHET)
Appendix 4.1.3

Bedrock Geology
**Figure 4.1.4.1**

Albany-Hudson Electric Trail (AHET) Alignment

- **Legend**:
  - Shared Use Path
  - Safe Roads
  - Bike Lanes
  - Walk/Bike Roadway
  - TDT Reality (treatment for truck separation)
  - NG ROW Not Used
  - Proposed Bridges
  - TAP Project
  - Washouts
  - RR Crossing
  - HAWK Signal Crossing
  - Raised Crosswalk
  - Marked, Signed & Yield Crosswalk
  - Marked & Signed Crosswalk
  - Village Boundary
  - Town Boundary
  - County Boundary

- US 20/NYS 9 sidewalks from 5th Ave to Southern Ave being completed in 2019 by NYSDOT for ramps ADA compliance and sidewalks under a TAP project by East Greenbush
- Walk/Bike Roadway Along Southern Ave
- Shared-Use Path (12' wide) from Maryland Drive to Point View Drive
- Bike Route Extending from Third Ave (151) to Hampton Ave
- Riverfront Park Trailhead
- Hampton Ave Trailhead
- Sidewalks from 5th Ave to US Route 9
- Broadway recently reconstructed and in ADA compliance
- Only ES1 Signage required
- Only EST Signage required

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Figure 4.1.4.2
Albany-Hudson Electric Trail (AHET) Alignment

- Brossel Road (shared driveway for 350')
- Funplex - 150' x 40' breach
- Washout East of Funplex
- Approx. Disturbance Area = 0.18 acres
- Washouts
- Village Boundary
- Proposed Bridges
- Brook Crossing
- County Boundary
- Shared Use Path
- HAWK Signal Crossing
- Sidewalks
- Marked, Signed & Yield Crosswalk
- Bike Lanes
- Marked & Signed Crosswalk
- Walk/Bike Roadway
- Trailheads
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- Use of Point View, Tamarack, and Greenwood
- Sidepath from Old Miller Road to WB Off Ramp
- 12' wide asphalt sidepath
- Special Fencing & Switchback along I-90
- Shared Use Path from Miller Road to Reno Road Confluence
- 10' wide shared use path, Asphalt at I-90 due to steep slopes
- Shared Use Path from Reno Road to NYS 150
- Construction of stone dust 10' wide
- See Map 3
- Walk/Bike Roadway from Point View to Greenwood
- Use of Point View, Tamarack, and Greenwood
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- East of I-90 (Area Requiring Special Fencing)
- Washout East of Funplex
- Brossel Road (Shared Driveway)
- Funplex - 150' x 40' breach
- Washout East of Funplex
- Approx. Disturbance Area = 0.18 acres
- Washouts
- Village Boundary
- Proposed Bridges
- Brook Crossing
- County Boundary
- Shared Use Path
- HAWK Signal Crossing
- Sidewalks
- Marked, Signed & Yield Crosswalk
- Bike Lanes
- Marked & Signed Crosswalk
- Walk/Bike Roadway
- Trailheads
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- Use of Point View, Tamarack, and Greenwood
- Sidepath from Old Miller Road to WB Off Ramp
- 12' wide asphalt sidepath
- Special Fencing & Switchback along I-90
- Shared Use Path from Miller Road to Reno Road Confluence
- 10' wide shared use path, Asphalt at I-90 due to steep slopes
- Shared Use Path from Reno Road to NYS 150
- Construction of stone dust 10' wide
- See Map 3
- Walk/Bike Roadway from Point View to Greenwood
- Use of Point View, Tamarack, and Greenwood
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- East of I-90 (Area Requiring Special Fencing)
- Washout East of Funplex
- Brossel Road (Shared Driveway)
- Funplex - 150' x 40' breach
- Washout East of Funplex
- Approx. Disturbance Area = 0.18 acres
- Washouts
- Village Boundary
- Proposed Bridges
- Brook Crossing
- County Boundary
- Shared Use Path
- HAWK Signal Crossing
- Sidewalks
- Marked, Signed & Yield Crosswalk
- Bike Lanes
- Marked & Signed Crosswalk
- Walk/Bike Roadway
- Trailheads
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- Use of Point View, Tamarack, and Greenwood
- Sidepath from Old Miller Road to WB Off Ramp
- 12' wide asphalt sidepath
- Special Fencing & Switchback along I-90
- Shared Use Path from Miller Road to Reno Road Confluence
- 10' wide shared use path, Asphalt at I-90 due to steep slopes
- Shared Use Path from Reno Road to NYS 150
- Construction of stone dust 10' wide
- See Map 3
- Walk/Bike Roadway from Point View to Greenwood
- Use of Point View, Tamarack, and Greenwood
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- East of I-90 (Area Requiring Special Fencing)
- Washout East of Funplex
- Brossel Road (Shared Driveway)
- Funplex - 150' x 40' breach
- Washout East of Funplex
- Approx. Disturbance Area = 0.18 acres
- Washouts
- Village Boundary
- Proposed Bridges
- Brook Crossing
- County Boundary
- Shared Use Path
- HAWK Signal Crossing
- Sidewalks
- Marked, Signed & Yield Crosswalk
- Bike Lanes
- Marked & Signed Crosswalk
- Walk/Bike Roadway
- Trailheads
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- Use of Point View, Tamarack, and Greenwood
- Sidepath from Old Miller Road to WB Off Ramp
- 12' wide asphalt sidepath
- Special Fencing & Switchback along I-90
- Shared Use Path from Miller Road to Reno Road Confluence
- 10' wide shared use path, Asphalt at I-90 due to steep slopes
- Shared Use Path from Reno Road to NYS 150
- Construction of stone dust 10' wide
- See Map 3
- Walk/Bike Roadway from Point View to Greenwood
- Use of Point View, Tamarack, and Greenwood
- Shared Use Path (12' wide)
- Use of Old Miller Road as Walk/Bike Roadway Segment
- East of I-90 (Area Requiring Special Fencing)
Figure 4.1.4.3
Albany-Hudson Electric Trail (AHET) Alignment
Figure 4.1.4.4
Albany-Hudson Electric Trail (AHET) Alignment

Legend

- Shared Use Path
- Sidepaths
- Sidewalks
- Bike Lanes
- Bike Roadway
- Walk/Bike Roadway
- Shared Roadway
- NG ROW Not Used
- Proposed Bridges
- Washouts
- MRR Crossing
- HAWK Crossing
- HAWK Signal Crossing
- Raised Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Trailheads

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Figure 4.1.4.6
Albany-Hudson Electric Trail (AHET) Alignment

Village of Valatie Trailhead

US Route 9 & Main St Intersection

Valatie Treatment Plant Road

Kinderhook Park Trailhead

Legend

- Shared Use Path
- Sidewalks
- Sidepaths
- Bike Lanes
- Walk/Bike Roadway
- Off Road from Route 9 to Stewart's
- Bike Lanes and Signage
- Construction of widened sidewalk sidepath
- Construction of a Sidepath NY Route 9
- Construction of stone dust 10' wide
- Construction of widened sidewalk sidepath
- Construction of stone dust 10' wide
- Village Boundary
- Town Boundary
- County Boundary
- Proposed Bridges
- Washouts
- RRFB Crossing
- HAWK Signal Crossing
- Raised Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk

January 22, 2018
Figure 4.1.4.7
Albany-Hudson Electric Trail (AHET) Alignment

Legend

- Shared Use Path
- Sidewalks
- Bike Lanes
- Web/Bike Roadway
- Shared Roadway
- NG ROW Use Grant
- Proposed Bridges
- Washouts
- RRFB Crossing
- HAWK Signal Crossing
- Raised Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Trailheads

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Figure 4.1.4.8
Albany-Hudson Electric Trail (AHET) Alignment

Legend:
- Shared Use Path
- Sidewalks
- Sidepaths
- Bike Lanes
- Walk/Bike Roadway
- Sidewalk
- Washouts
- Bridge Crossing
- HAWK Signal Crossing
- Raised Crosswalk
- Marked, Signed, & Yield Crosswalk
- Marked & Signed Crosswalk
- Trailheads
- Village Boundary
- Town Boundary
- County Boundary

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Appendix 4.2.1

Freshwater Wetlands

Wetland Delineation and Ecological Report (See Appendix Volume 2)
Figure 4.2.1.1
Mapped Federal & State Wetlands: City of Rensselaer - Rensselaer County

Legend
- Federal Wetland Boundary
- State Wetland Boundary
- Shared Use Path
- Sidewalk
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.2.1.2
Mapped Federal & State Wetlands: Town of East Greenbush - Rensselaer County
Figure 4.2.1.3
Mapped Federal & State Wetlands: Town of Schodack - Rensselaer County
Figure 4.2.1.4
Mapped Federal & State Wetlands: Town & Village of Nassau - Rensselaer County
Figure 4.2.1.6
Mapped Federal & State Wetlands: Town of Kinderhook, Villages of Valatie & Kinderhook - Columbia County
Figure 4.2.1.7
Mapped Federal & State Wetlands: Town of Stuyvesant - Columbia County

Legend
- Federal Wetland Boundary
- State Wetland Boundary
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Streams
- Village Boundary
- Town Boundary
- County Boundary

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Figure 4.2.1.8
Mapped Federal & State Wetlands: Town of Stockport - Columbia County
Figure 4.2.1.9
Mapped Federal & State Wetlands: Town of Greenport - Columbia County
Appendix 4.2.2

Surface Waterbodies
Figure 4.2.2.1
NYSDEC Classified Streams: City of Rensselaer - Rensselaer County

Legend
- Classified Stream
- Waterbody
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway

- Proposed Bridge
- Large Washout
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary

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Figure 4.2.2.2
NYSDEC Classified Streams: Town of East Greenbush - Rensselaer County

Legend
- Classified Stream
- Waterbody
- Shared Use Path
- Sidewalk
- Walk/Bike Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.2.2.3
NYSDEC Classified Streams: Town of Schodack - Rensselaer County

Legend
- Classified Stream
- Waterbody
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary

Additional AHET Portion
Town of Schodack (0.40 miles)
Figure 4.2.2.5
NYSDEC Classified Streams: Town of Chatham - Columbia County
Figure 4.2.2.7
NYSDEC Classified Streams: Town of Stuyvesant - Columbia County

Legend
- Classified Stream
- Waterbody
- Proposed Bridge
- Large Washout
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway

January 22, 2018
Figure 4.2.2.8
NYSDEC Classified Streams: Town of Stockport - Columbia County

Legend
- Classified Stream
- Waterbody
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.2.2.9
NYSDEC Classified Streams: Town of Greenport - Columbia County
Appendix 4.2.3

Floodplains
Figure 4.2.3.1
Floodplains: City of Rensselaer - Rensselaer County
Figure 4.2.3.3
Floodplains: Town of Schodack - Rensselaer County

Legend
- Floodway
- 100 Year Floodplain
- 500 Year Floodplain
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridges
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

Additional AHET Portion Town of Schodack (0.40 miles)
Figure 4.2.3.3a: Bridge 1
Floodplains: Town of Schodack - Rensselaer County
Figure 4.2.3.4
Floodplains: Town & Village of Nassau - Rensselaer County
Figure 4.2.3.4a: Bridge 2
Floodplains: Town & Village of Nassau - Rensselaer County

Legend
- Floodway
- 100 Year Floodplain
- 500 Year Floodplain
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridges
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.2.3.4b: Bridge 3
Floodplains: Town & Village of Nassau - Rensselaer County

Legend
- Floodway
- 100 Year Floodplain
- 500 Year Floodplain
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridges
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

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Figure 4.2.3.4c: Bridge 4
Floodplains: Town & Village of Nassau - Rensselaer County
Figure 4.2.3.5
Floodplains: Town of Chatham - Columbia County
Figure 4.2.3.6
Floodplains: Town of Kinderhook, Villages of Valatie & Kinderhook - Columbia County
Figure 4.2.3.6a: Bridge 6
Floodplains: Town of Kinderhook, Villages of Valatie & Kinderhook - Columbia County
Figure 4.2.3.7
Floodplains: Town of Stuyvesant - Columbia County
Figure 4.2.3.8
Floodplains: Town of Stockport - Columbia County

Legend
- Roadway
- 100 Year Floodplain
- 500 Year Floodplain
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

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Figure 4.2.3.9
Floodplains: Town of Greenport - Columbia County

Legend
- Floodway
- 100 Year Floodplain
- 500 Year Floodplain
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Proposed Bridge
- Large Washout
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

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Figure 4.4.1
Agricultural Districts: City of Rensselaer - Rensselaer County

Legend
- Rensselaer County Agricultural District 6
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway

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Figure 4.4.2
Agricultural Districts: Town of East Greenbush - Rensselaer County

Legend
- Rensselaer County Agricultural District 6
- Shared Use Path
- Sidepath
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway

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Figure 4.4.5
Agricultural Districts: Town of Chatham - Columbia County

Legend
- Columbia County Agricultural District 2
- Columbia County Agricultural District 3
- Columbia County Agricultural District 5
- Columbia County Agricultural District 10
- Shared Use Path
- Sidewalk
- Bike Lanes
- Web/Bike Roadway
- Shared Roadway

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Figure 4.4.6
Agricultural Districts: Town of Kinderhook, Villages of Valatie & Kinderhook - Columbia County
Figure 4.4.7
Agricultural Districts: Town of Stuyvesant - Columbia County

Legend
- Columbia County Agricultural District 2
- Columbia County Agricultural District 3
- Columbia County Agricultural District 5
- Columbia County Agricultural District 10
- Shared Use Path
- Sidewalk
- Sidepath
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway

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Figure 4.4.8
Agricultural Districts: Town of Stockport - Columbia County
Figure 4.4.9
Agricultural Districts: Town of Greenport - Columbia County
## APPENDIX 4.0: AGRICULTURAL RESOURCES

### Figure 4.4.10: Existing Parcels Adjacent to AHET Route within the NYS Agricultural District

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Parcel ID</th>
<th>Owner</th>
<th>Street</th>
<th>Acres</th>
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<td>Dogwood</td>
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<td>Peros, Nick</td>
<td>Eichybush Rd</td>
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### Appendix 4.4: Agricultural Resources

#### Draft Environmental Impact Statement (DEIS) Albany Hudson Electric Trail
March 9, 2018
GPI# ALB-2017132.00

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<th>Acres</th>
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<td>Kinderhook St</td>
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<td>Keil, James F.</td>
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</tbody>
</table>

Notes: There are no Agricultural District parcels adjacent to the proposed trail route within the City of Rensselaer, Village of Nassau, or Town of Greenport.
Appendix 4.6
Transportation
MEMO

To: Andy Beers, Hudson River Valley Greenway
From: GPI
Date: October 10, 2017
Subject: AHET Berkshire Neighborhood Alternative Route Evaluation

This memo serves as design justification for the proposed alignment of the Albany-Hudson Electric Trail (AHET) from Point View Drive south to Greenwood Drive in the Town of East Greenbush, Rensselaer County. These findings are based upon an extensive review of site conditions by both GPI and Alta engineering staff, and meetings that were held on September 11, 13, and 20th with a combination of various private property owners and members of the Town Board in addition to several one-on-one site visitations with property owners.

Recommendation:

Following a review of all alternatives, the GPI and Alta design team recommends that the AHET route utilize Tamarack Lane as the connection from Point View Drive to Greenwood Drive (off-road sections of the AHET trail will run northeast from Point View Drive and southwest from Greenwood Drive). This memo provides a summary of the alternatives analysis leading to the recommendation to utilize Tamarack Lane.

Off-Road Option (National Grid ROW) Eliminated:

Upon detailed review, we have determined that the option of utilizing National Grid ROW in this location (the “hybrid route”) is not a feasible option for the following reasons:

a) the ROW serves as a stormwater detention area along the southern portion, which would require extensive, high-cost engineering modifications to accommodate trail construction; and

b) construction of a trail entrance on Berkshire Drive directly across from the Holy Spirit School parking lot has the potential to generate conflicts between vehicles and trail users during both school and church events, and to invite unauthorized vehicle parking in the Holy Spirit lot by trail users. Accordingly, this option has been eliminated from further consideration.

On-Road Alternatives:

The GPI and Alta design team evaluated three on-road alternatives based on the existing conditions shown in Table 1 below and applicable design standards. The potential alternatives shown in the attached map all begin at Point View Drive where National Grid ROW meets the roadway and all terminate at the intersection of Greenwood Drive where the National Grid ROW meets the roadway.
Table 1 – Existing Conditions

<table>
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<th>Roadway Name</th>
<th>Pavement Width (ft)</th>
<th>Grade (%)</th>
<th>Speed Limit (mph)</th>
<th>Pedestrian Accommodations</th>
<th>Annual Average Daily Traffic (veh/day)</th>
<th>On-street Parking</th>
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<td>None</td>
<td>&gt;400</td>
<td>No restrictions</td>
<td>170, [525], (1,100)</td>
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<tr>
<td>Highland Drive</td>
<td>18-20</td>
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<td>30</td>
<td>Sidewalk (SB side)</td>
<td>&lt;400</td>
<td>No restrictions</td>
<td>270</td>
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<td>Greenwood Drive</td>
<td>28-29</td>
<td>&lt;5</td>
<td>30</td>
<td>None</td>
<td>&gt;400</td>
<td>No Restrictions</td>
<td>200, [340]</td>
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<tr>
<td>Berkshire Drive</td>
<td>20</td>
<td>10 (max.)</td>
<td>30</td>
<td>Sidewalk (Not Continuous)</td>
<td>&lt;400</td>
<td>No restrictions</td>
<td>2,825</td>
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<td>Tamarack Lane</td>
<td>32-35</td>
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<td>30</td>
<td>None</td>
<td>See below</td>
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<td>Evergreen Way</td>
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<td>30</td>
<td>None</td>
<td>&lt;400</td>
<td>No restrictions</td>
<td>975</td>
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</table>

1. XXX=Berkshire Drive Alternative, (XXX)= Tamarack Lane Alternative, [XXX]=Evergreen Way Alternative

Roadway Existing Conditions:

Point View Drive – This is a local urban road that serves a residential area but also provides a direct connection to the Columbia Turnpike (US 9/20). The roadway does not provide any pedestrian accommodations but its width and level terrain makes its suitable as a shared-use facility. If chosen as the preferred route the intersection sight distance at the intersection of Point View Drive and Berkshire Drive may be limited due to the existing geometry and would need further detailed evaluation.

Greenwood Drive – This is a local urban road that serves a residential area but also provides a direct connection between Elliot Road and Columbia Turnpike (US 9/20) thru Huntswood Lane. It can be expected that this roadway will have higher traffic volumes than the other roads in the area. Pavement width is adequate for a shared-use facility development and review of the intersection sight distance does not indicate any major deficiencies.

Berkshire Drive Alternative: From the north, this alternative would travel westerly briefly along Point View Drive before traveling south along Berkshire Drive, intersecting Highland Drive and continuing south towards Greenwood Drive (Point View - Berkshire – Highland - Greenwood). The combined alternative totals approximately 3,600 feet. Berkshire Drive is a local road that serves adjacent residences. As part of the AHET project pedestrians would be able to use the existing sidewalks and/or shared roadway while bicyclists would travel in the shared roadway. It is noted that the sidewalks in this area are not ADA compliant as they are in poor condition and lack proper ramps and detectible warnings, minimum widths requirements, and exceed allowable grades. Where the sidewalk ends at Elmwood Drive pedestrians would walk along the shared roadway. A shared-use condition at this location, in conjunction with various vertical and horizontal curvature of the roadway creates potential conflict points between users and motorists.

Evergreen Way Alternative: The Evergreen alternative totals approximately 3,300 feet and travels easterly from Point View Drive south onto Evergreen Way then turns south onto Tamarack Lane ending at Greenwood Drive. (Point View – Evergreen - Tamarack – Greenwood). Evergreen Way is a local road that serves a residential area; therefore, an AADT of <400 vehicles/day can be assumed. The roadway does not currently provide for pedestrian accommodations and similarly to the other alternatives, AHET trail users would utilize the roadway under a shared-use condition.
**Tamarack Lane Alternative**: The Tamarack alternative totals approximately 3,490 feet and travels easterly from Point View Drive, south onto Tamarack Lane ending at Greenwood Drive. (Point View – Tamarack – Greenwood). Tamarack Lane is a local road that serves residential areas, but also in conjunction with its overall geometry it is expected that traffic along Tamarack Road may be slightly higher than observed along Berkshire Drive and Evergreen Way. There are no existing pedestrian accommodations along Tamarack Lane so pedestrians, bicyclists, and motorists would use it as shared use facility for the AHET (as they currently do). If chosen as the preferred project route, the northbound approach at the intersection of Tamarack Lane and Point View Drive may require a possible road modification (reduction in road width) to minimize crossing distances as the approach at the intersection is excessively wide leading to undefined travel lanes and turning movements, which result in higher rates of speeds. The reconfiguration of this area would be accomplished using either either striping/hatching and/or new curbing.

**Design Standards:**

Table 2 below compares NYSDOT Standards for Urban Local Non-NHS roads, AASHTO shared use facility standards and the existing conditions for these streets to assist in selecting the optimal alignment.

<table>
<thead>
<tr>
<th></th>
<th>NYSDOT Non-NHS Urban Local Standards</th>
<th>AASHTO Shared Use Facility</th>
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</thead>
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<tr>
<td><strong>Design Speed (mph)</strong></td>
<td>20-30</td>
<td>20</td>
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<tr>
<td><strong>Total Pavement Width (ft)</strong></td>
<td>24</td>
<td>8 (min.) (10-14 preferred)</td>
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<tr>
<td><strong>Maximum Grade (%)</strong></td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Pedestrian Accommodation</strong></td>
<td>ADA Sidewalk on at least 1 side</td>
<td>ADA Sidewalk on at least 1 side</td>
</tr>
</tbody>
</table>

**Assessment:**

Berkshire Drive satisfies most of the basic requirements as identified by both the NYSDOT and AASHTO design guidelines with a few caveats. Though AASHTO does allow for short segments of trail to have grades greater than 5%, this is considered undesirable as it presents greater challenges for pedestrians and bicyclists. Berkshire Drive currently has parking on both sides of the street, the 20-foot pavement width may be unsuitable at times for both the passage of traffic and for the shared-use path although this parking does result in much lower design speeds which is an ideal condition. The relatively steep grade exceeding 10% near Birchwood Drive intersection creates a vertical curve, which greatly reduces the ability to see oncoming vehicle and pedestrian traffic. The existing sidewalks have grade in excess of 20% at some locations making it noncompliant with ADA Pedestrian Accommodations and/or AASHTO trail design standards. Additional the sharp 90 degree turn as Berkshire Drive approaches Highland Drive also significantly restricts sight distance.

Tamarack Lane satisfies most requirements basic requirements as identified by both the NYSDOT and AASHTO design guidelines. The road is wide enough to allow for regular traffic flow in addition to the proposed shared-use trail. The grade is limited enough to allow for a comfortable passage by most AHET users, and the road has few curves that could limit sight distance for motorists and trail users. The roadway lacks any sidewalks and would remain as a shared use facility as it currently operates.
Evergreen Way, similar to Tamarack, meets most requirements however, Evergreen is narrower which may cause more traffic conflicts than Tamarack. Use of Evergreen on AHET’s alignment would create a shorter trail connection compared to use of Tamarack, although this distance is only by 200 feet compared to going solely on Tamarack Lane. The street lacks sidewalks and provides no additional benefit over the Tamarack Lane Alternative beyond reducing total path length but has some overall stepper grades. The roadway lacks any sidewalks and would be a shared use facility as it currently operates.

After reviewing the information summarized above, the GPI and Alta design team recommend Tamarack Lane as the preferred alternative for the AHET route connection from Point View Drive to Greenwood Drive.
MEMO

To: Chris Cornwell, P.E.
From: Michael Wieszchowski, P.E., PTOE
Date: 11/16/2017
Subject: Traffic Analysis and Evaluation

As requested, we have performed traffic analysis in support of the proposed Albany-Hudson Electric Trail (AHET) to assist in the evaluation of various design alternatives. This memo summarizes the data collection and traffic analysis performed for this task and presents the results and findings. The traffic-related items reviewed as part of this analysis include:

1. Trail Crossing at US Route 4 (East Greenbush) – The use of signalized control (HAWK signal) is being considered at this trail crossing location. The impact of queues caused by the installation of such a signal was examined.

2. Miller Road Trail Crossing (East Greenbush) – Three items were examined to assist in determining the best trail crossing location along Miller Road.
   a. Is a traffic signal warranted at the Miller Rd and I-90 (Exit 10) Eastbound Ramp location?
   b. Is a traffic signal warranted at the Miller Rd and Empire State Blvd intersection?
   c. How does the peak hour volumes entering/exiting the Mobil Station Driveway compare to the volumes at the I-90 eastbound on-ramp approach?

3. Route 203/Route 32 and Bunker Hill Road Traffic Operations (North Chatham) – A high accident rate for northbound Route 203 traffic entering Bunker Hill Rd warranted a review of traffic operations and a possible reconfiguration of this location.

4. Kinderhook St at Main St/Albany Ave (Valatie) – With the trail access being close to this intersection and an adjacent mid-block pedestrian crossing, traffic operations and traffic signal warranting conditions were examined at this location.

Data Collection

To obtain the data necessary to perform the required analyses, traffic count data was collected and field observations made in October 2017. The data Collection effort included the following:

- AM and PM peak period (7-9 AM, 4-6 PM) traffic counts along US Route 4 at the trail crossing location.
- Queue observations during the AM and PM peak periods along US Route 4 between the trail crossing location and Route 9 & 20.
- 13 Hour (7 AM - 8 PM) turn movement traffic counts at the Miller Road at I-90 (Exit 10) eastbound ramp intersection.
- 13 Hour (7 AM - 8 PM) turn movement traffic counts at the Miller Road at Empire State Blvd intersection.
- AM & PM Peak hour traffic counts at the Miller Rd Mobil Station access drive to determine entering/exiting traffic.
- AM and PM peak period (7-9 AM, 4-6 PM) turn movement traffic counts at Route 203/Route 32/Bunker Hill Rd.
- 13 Hour (7 AM - 8 PM) turn movement traffic counts at Kinderhook St/Main St/Albany Ave and mid-block pedestrian crossing.
Traffic Analysis

**Trail Crossing at US Route 4 (East Greenbush)**

The trail crossing at US Route 4 is located approximately 650’ north of the Route 9 & 20 intersection. Existing condition queue observations were made in October 2017 for the southbound queue resulting from stops at the Route 9 & 20 traffic signal to determine if the queues from the intersection would impact the trail location. The observations revealed that maximum queues from the signal extended back to approximately 350’ from the signal and did not come within 300’ of the proposed trail location. As such, queues from the Route 9 & 20 intersection should not impact operations at the proposed trail location.

To determine the potential queues from a Hawk signal, if installed at the trail crossing, peak hour traffic volumes on US Route 4 were used to perform a capacity analysis for the location. This analysis assumed a traffic signal installation at the trail with 20 pedestrian calls per hour, and timings set to 10 seconds for walk time and 15 seconds for flashing don’t walk time. The signal was assumed to be in semi-actuated mode with a green time of 38 seconds for the roadway. However, unless there is a pedestrian actuation along the trail, the signal will dwell in green for the roadway indefinitely.

Reviewing peak hour traffic volumes, it was determined that there are 455 southbound and 580 northbound vehicles on US Route 4 at the trail location in the AM peak hour, and 930 southbound and 620 northbound vehicles in the PM peak hour. Because of this, the PM peak hour was selected for analysis, as it has much higher volumes, which would result in the highest queue impacts. The analysis itself was performed with the SYNCHRO Traffic Analysis software, using the methodologies of the *Highway Capacity Manual* (HCM). The results of the analysis (Synchro report worksheets attached) showed that the northbound queue should not exceed 270’ and that the roadway approaches will both operate at level of service LOS A. Based on these results, the installation of a Hawk signal at this location would not impact traffic operations at the Route 9 & 20 intersection and is feasible.

**Miller Road Trail Crossing (East Greenbush)**

Traffic signal warrants were performed for both the Miller Rd at I-90 Eastbound Ramps intersection and the Miller Rd at Empire State Blvd intersection. These warrant analyses utilized the criteria listed in the *Manual on Uniform Traffic Control Devices* (MUTCD), and they focused on the volume oriented warrants (#1-#3); Warrant #1 – eight hour vehicular volume; Warrant #2 – four hour vehicular volume; and Warrant #3 – peak hour vehicular volume. As can be seen in the attached Warrant Analysis worksheets, neither location warrants a traffic signal based on the current traffic volumes. At the I-90 Ramp intersection, volumes meet 8-hour warranting conditions for only four hours of the day, and the Empire State Blvd intersection only satisfies this condition for 1 hour of the day; where 8 hours would be needed to justify a traffic signal through traffic volumes.
Additionally for Miller Rd, traffic counts conducted at the Mobil Station driveway showed that 300 vehicles (140 entering/160 exiting) utilize the driveway in the AM peak hour and 280 vehicles (155 entering/125 exiting) in the PM peak hour. Comparing this to the I-90 eastbound on-ramp approach volume, which has traffic in only one direction (southbound) and the volume in that direction is 50 in the AM peak hour and 80 in the PM peak hour, it is evident that trail traffic (pedestrians and bicycles) crossing along the north side of Miller Rd at the Mobil Station Driveway would experience a much greater number of vehicular conflicts (3.5 times or more) than trail traffic crossing the I-90 Ramp roadway along the south side of Miller Rd.

Route 203/Route 32 and Bunker Hill Road Traffic Operations (North Chatham)

As depicted to the right, this location is a series of three intersections; a 4-way intersection between Route 32 and Bunker Hill Rd with stop control for the Route 32 approaches; a 3-leg T-intersection where Route 32 meets Route 203 with stop control for only the Route 32 eastbound approach; and a 3-leg T-intersection where Bunker Hill Rd meets Route 203 with Yield Control for the southbound Bunker Hill Rd approach. An issue was identified with this location during the accident analysis where a high number of left turn accidents were occurring northbound along Route 203. In looking at the aerial, it is clear that the reason for this is that the left turn movement onto Bunker Hill Rd is actually a through movement because of the curvature of Route 203 and it is likely that drivers think the movement onto Bunker Hill Rd is a free flow movement not requiring them to yield to westbound/southbound Route 203 traffic. Traffic analyses were performed to identify the existing levels of service and assess future operations with geometric changes to reduce this confusion.

Step 1 in determining traffic operations at this location, was to determine the traffic volumes present. Traffic counts were conducted in October 2017 and the AM and PM peak hour traffic volumes were determined. Figure 1 attached to this memo diagrams these volumes. As can be seen in the figure, traffic volumes are fairly light at this location, with no movement having more than 75 vehicles per hour.
A capacity analysis was conducted for the existing conditions (see worksheets attached) and it was revealed that capacity is not an issue at this location. For all movements at the three intersections, level of service never drops below LOS B (with delay less than 11 seconds per vehicle) in either the AM peak hour or the PM peak hour.

For improvements that could correct the driver confusion and the high accident rate caused by the current configuration, two alternatives were reviewed; Alternative 1 – Create two 3-leg intersections and Alternative 2 – 80’ Diameter Mini Roundabout. Rough stick figure sketches of these potential layouts are shown to the right. Please note, neither of these alternatives have been vetted for feasibility. Right-of-way availability, sight distance and roadway geometrics will all need to be reviewed before either alternative should be considered. The review performed as part of this traffic analysis was strictly for capacity purposes. It should also be noted that Alternative 1 could have the main flow at the Route 32 and Bunker Hill Rd intersection be on either roadway with the same results. Traffic volumes on these roadways are similar and both reasonably low, so no change would results if Route 32 was connected to Route 203 instead of Bunker Hill Rd as shown.

Based on the analysis performed (see capacity analysis worksheets attached), Alternative 1 has levels of service very similar to the existing condition, with no movement operating worse that LOS B and no vehicle experiencing more than 11 seconds of delay.

For Alternative 2, no approach will operate worse that LOS A, but this alternative does require all vehicles to experience some (albeit minimal) delay. Under Alterative 1 Route 203 traffic would remain free flow and would experience no delay.

Overall, with regards to traffic operations, capacity and queuing, both alternatives provide acceptable traffic operation while removing the movement of concern.

Kinderhook St at Main St/Albany Ave (Valatie)

The final location reviewed as part of this traffic evaluation is the Kinderhook Rd at Main St/Albany St intersection in Valatie. This intersection, which is pictured to the right, is currently stop sign controlled for Main St and Albany Ave and free flow for Kinderhook St. Additionally, there is a free flow right turn slip ramp coming off Kinderhook St northbound to Main St eastbound. Located approximately 75’ east of the slip ramp is a mid-block pedestrian crossing across Main St.

Issues being reviewed at this location include, does the intersection warrant traffic signal control? What are the peak hour levels of service in the existing condition? And what are the peak hour levels of service in a signalized condition? Additionally, what volume of pedestrian traffic utilizes the mid-block crossing?

Turn movement traffic counts for this location were conducted in October 2017 and the AM and PM peak hour traffic volumes collected are shown in Figure 1 attached.
In looking at the traffic signal warranting conditions (see warrant analysis worksheet attached), it was determined that the 8-hr. criteria was met for 10 hours of the day, which satisfied the requirements for Warrant #1 and the 4-hr. criteria was met for 7 hours of the day, which satisfied Warrant #2. These two warrants are the most compelling of all the warrants, as they cover multiple hours of the day, and they make it clear that a traffic signal is warranted at this location.

Additionally, capacity analyses were performed for this intersection. These analyses revealed that the westbound left turn movement on Main Street operates at LOS D (34.9 seconds of delay per vehicle) in the AM peak hour and LOS F (61.5 sec/vehicle delay) in the PM peak hour. This LOS F is worse than desirable, but with a volume to capacity ratio of 0.63, which is below the 1.0 value that would indicate a capacity issue, and that fact that the overall approach operates at an acceptable LOS D (25.7 sec/vehicle delay), the existing conditions could be considered borderline acceptable. It should be noted that with signalized control, all approaches would operate at LOS B or better, which is more than acceptable, but it would add some delay to the Kinderhook St through movements where none exists currently. The benefit of adding the traffic signal is that pedestrian crossings can be controlled and better protected than the mid-block crossing to the east. The existing mid-block crossing appears to operate acceptably now, but there is currently only one pedestrian crossing in the peak hours. It may be desirable to better control the pedestrian crossings along Main St in the future with the construction of the path and the potential increase in pedestrian and bicycle crossing traffic.

Summary and Conclusion

Based on the analyses performed, the following points can be made:

1. A Hawk Signal (or other signalized control) could be installed at the US Route 4 Trail Crossing without vehicular queues impacting traffic operations at the trail signal or at the Route 9 & 20 signal. Queues between the signals should only extend about halfway back to the adjacent signal, which provides a significant safety margin before adjacent signal traffic operations would be affected.

2. Traffic signals are not warranted at the Miller Rd and I-90 eastbound ramp intersection or the Miller Rd and Empire State Blvd intersection.

3. When considering trail locations along Miller Rd, it should be noted that the traffic presently entering and exiting the Mobil Station driveway is approximately 3.5 times that entering the I-90 eastbound on-ramp. A trail located on the south side of the roadway would produce significantly fewer vehicle-pedestrian conflicts.

4. The high accident rate at the Route 203/Route 32/Bunker Hill Rd intersections is caused by driver confusion and a lack of clear right-of-way for the northbound movement from Route 203 to Bunker Hill Rd. Reconfiguration of these intersections would be needed to correct this.

5. Traffic operations were reviewed at the Route 203/Route 32/Bunker Hill Rd intersections for the existing conditions, for a realigned condition that produces two T-intersections and for a mini-roundabout condition. In all cases, capacity will not be an issue and levels of service will not fall below LOS B in the peak hours.

6. Signal warranting conditions reviewed at the Kinderhook St/Main St/Albany Ave intersection revealed that a traffic signal is warranted based on both Warrant #1 and Warrant #2. However, the existing conditions, with stop control on Main St and Albany Ave, do produce marginally acceptable operation with volume to capacity ratios below 1.0 and no significant queue back-ups (even with the eastbound left turn movement at LOS F in the PM peak hour). Because of this, a signal may not be needed at this time, but in the future with the trail constructed, more defined and protected pedestrian crossings may be desired and a traffic signal would be the most effective way to achieve that goal.
NOTE:
XX (XX) = AM (PM) PEAK HOUR TRAFFIC VOLUMES

ROUTE 203/ROUTE 32 AND BUNKER HILL RD
NORTH CHATHAM, NY

NOTE:
XX (XX) = AM (PM) PEAK HOUR TRAFFIC VOLUMES

KINDERHOOK ST AT MAIN ST/ALBANY AVE
VALATIE, NY
**TRAFFIC SIGNAL WARRANT SUMMARY**

**Project:** Miller Rd and I-90 (Exit 10) Ramps  
**Location:** Miller Rd and I-90 (Exit 10) Ramps  
**Condition:** AHET  
**Date:** November 14, 2017

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<th>Major Street</th>
<th>Minor Street</th>
<th>Lanes</th>
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<td>I-90 Ramps</td>
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<td>45 mph</td>
</tr>
</tbody>
</table>

**Volume Level Criteria**

1. Is the critical speed of major street traffic greater than 40 mph?  
   - Yes

2. Is the intersection in a built-up area of an isolated community with population less than 10,000?  
   - No

If either Question 1 or Question 2 is answered "Yes", then use the 70% volume level.

**WARRANT 1 - EIGHT HOUR VEHICULAR VOLUME**

Warrant 1 satisfies if EITHER Condition A OR Condition B is 100% satisfied.

Warrant 1 is also satisfied if BOTH Condition A AND Condition B are satisfied to the 80% volume level.

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<tr>
<th>Condition 1A - Minimum Vehicular Volume</th>
<th>Condition 1B - Interruption of Continuous Traffic</th>
<th>Total Satisfied Hours (8 required)</th>
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<td>X</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>512</td>
<td>94</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>6:00 PM</td>
<td>362</td>
<td>53</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
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<td>X</td>
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<td>205</td>
<td>38</td>
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<td>X</td>
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<tr>
<td>8:00 PM</td>
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<tr>
<td>9:00 PM</td>
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<td>10:00 PM</td>
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<tr>
<td>11:00 PM</td>
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<td>-</td>
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</tr>
</tbody>
</table>

1 Major Street Volume is the total combined volume of both mainline approaches.
2 Minor Street volumes is the highest single side street approach volume.

**WARRANT 2 - FOUR HOUR VEHICULAR VOLUME**

Warrant is satisfied if four (4) or more hours satisfy the volume requirements depicted on the four hour warranting graph (see page 2).

<table>
<thead>
<tr>
<th>No. of Points Above Criteria Curve</th>
<th>Warrant Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No</td>
</tr>
</tbody>
</table>

**WARRANT 3 - PEAK HOUR VEHICULAR VOLUME**

Warrant is satisfied if any hour satisfy the volume requirements depicted on the peak hour warranting graph (see page 3), and ALL three of the following requirements are met.

<table>
<thead>
<tr>
<th>No. of Points Above Criteria Curve</th>
<th>Warrant Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No</td>
</tr>
</tbody>
</table>

1. Total stopped time delay on Minor Street equals or exceeds 4 VHD (single lane) or 5 VHD (two lanes): n/a VHD Max. n/a
2. Volume on Minor Street equals or exceeds 100 vehicles (single lane) or 150 vehicles (two lanes): n/a
3. Total intersection volume serviced during the hour equals or exceeds 650 veh. (3-leg) or 800 veh. (4-leg or more): n/a

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)

Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

Criteria Source: Manual on Uniform traffic Control Devices, 2009
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)

Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

Minor Street
High volume approach, vph

Major Street
Total volume of both approaches, vph

One Lane Both Major & Minor
Two or More Lanes & One Lane
Two or More Lanes Both Major and Minor

Criteria Source: Manual on Uniform traffic Control Devices, 2009
TRAFFIC SIGNAL WARRANT SUMMARY

Project: AHET
Condition: 2017 Traffic Counts
Location: Miller Rd and Empire State Blvd
Date: November 14, 2017

Major Street: Miller Rd | Lanes: 1
Minor Street: Empire State Blvd/Commercial Development Access | Lanes: 1
Critical Approach Speed: 45 mph

Volume Level Criteria

1. Is the critical speed of major street traffic greater than 40 mph? YES
2. Is the intersection in a built-up area of an isolated community with population less than 10,000? No

If either Question 1 or Question 2 is answered "Yes", then use the 70% volume level.

Criteria used: 70%

WARRANT 1 - EIGHT HOUR VEHICULAR VOLUME
Warrant 1 Satisfied: NO
Warrant 1 is satisfied if EITHER Condition A OR Condition B is 100% satisfied. Warrant 1 is also satisfied if BOTH Condition A AND Condition B are satisfied to the 80% volume level.

<table>
<thead>
<tr>
<th>Condition 1A - Minimum Vehicular Volume</th>
<th>Condition 1B - Interruption of Continuous Traffic</th>
<th>Total Satisfied Hours (8 required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 AM</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1:00 AM</td>
<td>-</td>
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<tr>
<td>2:00 AM</td>
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<td>-</td>
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<tr>
<td>3:00 AM</td>
<td>-</td>
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<tr>
<td>4:00 AM</td>
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<td>5:00 AM</td>
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<tr>
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<td>-</td>
</tr>
<tr>
<td>11:00 PM</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Condition 1A - Minimum Vehicular Volume: (X indicates that criteria is met for specified condition)
Condition 1B - Interruption of Continuous Traffic: (X indicates that criteria is met for specified condition)
Total Satisfied Hours (8 required): 1 1 1

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME
Warrant 2 Satisfied: NO
Warrant is satisfied if four (4) or more hours satisfy the volume requirements depicted on the four hour warranting graph (see page 2).

WARRANT 3 - PEAK HOUR VEHICULAR VOLUME
Warrant 3 Satisfied: NO
Warrant is satisfied if any hour satisfy the volume requirements depicted on the peak hour warranting graph (see page 3), and ALL three of the following requirement are met.

1. Total stopped time delay on Minor Street equals or exceeds 4 VHD (single lane) or 5 VHD (two lanes): 0.94 VHD Max. NO
2. Volume on Minor Street equals or exceeds 100 vehicles (single lane) or 150 vehicles (two lanes): YES
3. Total intersection volume serviced during the hour equals or exceeds 650 veh. (3-leg) or 800 veh. (4-leg or more): YES

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)

Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)

Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

TRAFFIC SIGNAL WARRANT SUMMARY

Project: AHET
Condition:
Location: Kinderhook Rd and Main Street
Date: November 14, 2017

Major Street: Kinderhook Rd
Lanes: 1
Critical Approach Speed: 35 mph

Minor Street: Main St/Albany St.
Lanes: 2

Volume Level Criteria

1. Is the critical speed of major street traffic greater than 40 mph?
   - NO
2. Is the intersection in a built-up area of an isolated community with population less than 10,000?
   - No

If either Question 1 or Question 2 is answered "Yes", then use the 70% volume level.

Criteria used: 100%

WARRANT 1 - EIGHT HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if EITHER Condition A OR Condition B is 100% satisfied.
Warrant 1 is also satisfied if BOTH Condition A AND Condition B are satisfied to the 80% volume level.

<table>
<thead>
<tr>
<th>Condition 1A - Minimum Vehicular Volume</th>
<th>Condition 1B - Interruption of Continuous Traffic</th>
<th>Total Satisfied Hours (8 required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Volume Criteria:</td>
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</tr>
<tr>
<td>500</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Start Time</td>
<td>Major St. Volume 1</td>
<td>Minor St. Volume 2</td>
</tr>
<tr>
<td>12:00 AM</td>
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<td>-</td>
</tr>
<tr>
<td>1:00 AM</td>
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<td>-</td>
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<tr>
<td>2:00 AM</td>
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<td>3:00 AM</td>
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<td>4:00 AM</td>
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<td>5:00 AM</td>
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<td>6:00 AM</td>
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<tr>
<td>7:00 AM</td>
<td>553</td>
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<td>8:00 AM</td>
<td>466</td>
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<td>9:00 AM</td>
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<td>-</td>
</tr>
<tr>
<td>11:00 PM</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1 Major Street Volume is the total combined volume of both mainline approaches.
2 Minor Street volumes is the highest single side street approach volume.

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME

Warrant is satisfied if four (4) or more hours satisfy the volume requirements depicted on the four hour warranting graph (see page 2).

Warrant 2 Satisfied: YES
No. of Points Above Criteria Curve: 7

WARRANT 3 - PEAK HOUR VEHICULAR VOLUME

Warrant is satisfied if any hour satisfy the volume requirements depicted on the peak hour warranting graph (see page 3), and ALL three of the following requirement are met.

Warrant 3 Satisfied: NO
No. of Points Above Criteria Curve: 0

1. Total stopped time delay on Minor Street equals or exceeds 4 VHD (single lane) or 5 VHD (two lanes): n/a VHD Max. n/a VHD
2. Volume on Minor Street equals or exceeds 100 vehicles (single lane) or 150 vehicles (two lanes): n/a
3. Total intersection volume serviced during the hour equals or exceeds 650 veh. (3-leg) or 800 veh. (4-leg or more): n/a

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

Criteria Source: Manual on Uniform traffic Control Devices, 2009
Figure 4C-3. Warrant 3, Peak Hour

Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

Criteria Source: Manual on Uniform traffic Control Devices, 2009
Queue Analysis of Route 4 & Trail US 4 Hawk Signal PM Peak

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>NBT</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Group Flow (vph)</td>
<td>646</td>
<td>969</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.40</td>
<td>0.61</td>
</tr>
<tr>
<td>Control Delay</td>
<td>6.0</td>
<td>9.5</td>
</tr>
<tr>
<td>Queue Delay</td>
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<td>0.0</td>
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<tr>
<td>Total Delay</td>
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<td>9.5</td>
</tr>
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<td>Queue Length 50th (ft)</td>
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<td>Queue Length 95th (ft)</td>
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<td>1604</td>
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<tr>
<td>Turn Bay Length (ft)</td>
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<tr>
<td>Base Capacity (vph)</td>
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<td>1597</td>
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<tr>
<td>Storage Cap Reductn</td>
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<td>0</td>
</tr>
<tr>
<td>Reduced v/c Ratio</td>
<td>0.40</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Intersection Summary
| Movement       | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Traffic Volume (vph) | 0   | 0   | 0   | 0   | 0   | 0   | 620 | 0   | 0   | 930 | 0   |     |
| Future Volume (vph)    | 0   | 0   | 0   | 0   | 0   | 0   | 620 | 0   | 0   | 930 | 0   |     |
| Ideal Flow (vphpl)     | 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900|     |
| Lane Width             | 8   | 8   | 8   | 8   | 8   | 8   | 12  | 12  | 12  | 12  | 12  |     |
| Total Lost time (s)    | 5.0 |     |     |     |     |     |     |     |     |     |     |     |
| Lane Util. Factor      | 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Frt                    | 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Flt Protected          | 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Satd. Flow (prot)      | 1881|     |     |     |     |     |     |     |     |     |     |     |
| FIt Permitted          | 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Satd. Flow (perm)      | 1881|     |     |     |     |     |     |     |     |     |     |     |
| Peak-hour factor, PHF  | 0.96|     |     |     |     |     |     |     |     |     |     |     |
| Adj. Flow (vph)        | 0   | 0   | 0   | 0   | 0   | 0   | 646 | 0   | 0   | 969 | 0   |     |
| RTOR Reduction (vph)   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |     |
| Lane Group Flow (vph)  | 0   | 0   | 0   | 0   | 0   | 0   | 646 | 0   | 0   | 969 | 0   |     |
| Turn Type              | NA  |     |     |     |     |     |     |     |     |     |     |     |
| Protected Phases       | 1   |     |     |     |     |     |     |     |     |     |     |     |
| Permitted Phases       | 1   |     |     |     |     |     |     |     |     |     |     |     |
| Actuated Green, G (s)  | 54.9|     |     |     |     |     |     |     |     |     |     |     |
| Effective Green, g (s) | 54.9|     |     |     |     |     |     |     |     |     |     |     |
| Actuated g/C Ratio     | 0.78|     |     |     |     |     |     |     |     |     |     |     |
| Clearance Time (s)     | 5.0 |     |     |     |     |     |     |     |     |     |     |     |
| Vehicle Extension (s)  | 3.0 |     |     |     |     |     |     |     |     |     |     |     |
| Lane Grp Cap (vph)     | 1475|     |     |     |     |     |     |     |     |     |     |     |
| v/s Ratio Prot         | 0.34|     |     |     |     |     |     |     |     |     |     |     |
| v/s Ratio Perm         | 0.052|    |     |     |     |     |     |     |     |     |     |     |
| v/c Ratio              | 0.44|     |     |     |     |     |     |     |     |     |     |     |
| Uniform Delay, d1      | 2.5 |     |     |     |     |     |     |     |     |     |     |     |
| Progression Factor     | 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Incremental Delay, d2  | 0.9 |     |     |     |     |     |     |     |     |     |     |     |
| Delay (s)              | 3.4 |     |     |     |     |     |     |     |     |     |     |     |
| Level of Service       | A   |     |     |     |     |     |     |     |     |     |     |     |
| Approach Delay (s)     | 0.0 |     |     |     |     |     |     |     |     |     |     |     |
| Approach LOS           | A   |     |     |     |     |     |     |     |     |     |     |     |

**Intersection Summary**

- HCM 2000 Control Delay: 4.8
- HCM 2000 Level of Service: A
- HCM 2000 Volume to Capacity ratio: 0.57
- Actuated Cycle Length (s): 70.0
- Sum of lost time (s): 7.0
- Intersection Capacity Utilization: 53.1%
- ICU Level of Service: A
- Analysis Period (min): 15
## HCM Unsignalized Intersection Capacity Analysis

### 3: Bunker Hill Road & Route 32

#### Route 203/Route 32/Bunker Hill Rd - AM Peak Hour

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
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<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
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<tbody>
<tr>
<td>Lane Configurations</td>
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<tr>
<td>Traffic Volume (veh/h)</td>
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<td>Future Volume (Veh/h)</td>
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<td>Peak Hour Factor</td>
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<tr>
<td>Hourly flow rate (vph)</td>
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#### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked

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<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
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#### Intersection Summary

- Average Delay: 5.9
- Intersection Capacity Utilization: 14.1% ICU Level of Service A
- Analysis Period (min): 15
## HCM Unsignalized Intersection Capacity Analysis

### 5: Route 203 & Route 32

#### Route 203/Route 32/Bunker Hill Rd - AM Peak Hour

### AHET Analysis Synchro 9 Report

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### Pedestrians

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<td>tC, single (s)</td>
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### Analysis Period (min)

| Average Delay | 1.8 |
| Intersection Capacity Utilization | 16.0% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |
## HCM Unsignalized Intersection Capacity Analysis

### 6: Route 203 & Bunker Hill Road

**Route 203/Route 32/Bunker Hill Rd - AM Peak Hour**

### AHET Analysis Synchro 9 Report

**GPI Page 3**

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### Intersection Summary

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Vol 1, Page 164
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<td>B</td>
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<td>A</td>
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<td>B</td>
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**Intersection Summary**

- **Average Delay**: 5.7
- **Intersection Capacity Utilization**: 15.8% **ICU Level of Service**: A
- **Analysis Period (min)**: 15
## HCM Unsignalized Intersection Capacity Analysis
### 5: Route 203 & Route 32

#### Route 203/Route 32/Bunker Hill Rd - PM Peak Hour

<table>
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<tr>
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<th>WBR</th>
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<th>SER</th>
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<td>Free</td>
<td>Stop</td>
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<td>0%</td>
<td>0%</td>
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<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
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<td>67</td>
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#### Pedestrians
- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked
- vC, conflicting volume
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol
- tC, single (s)
- tC, 2 stage (s)
- tF (s)
- p0 queue free %
- cM capacity (veh/h)

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<th>SE 1</th>
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<tr>
<td>Volume Right</td>
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<td>cSH</td>
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<td>1700</td>
<td>842</td>
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<tr>
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<td>0.04</td>
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<td>Control Delay (s)</td>
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<td>Lane LOS</td>
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<td>0.0</td>
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<tr>
<td>Approach LOS</td>
<td>A</td>
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### Intersection Summary
- Average Delay: 2.7
- Intersection Capacity Utilization: 14.5%
- ICU Level of Service: A
- Analysis Period (min): 15
## HCM Unsignalized Intersection Capacity Analysis

### 6: Route 203 & Bunker Hill Road

**Route 203/Route 32/Bunker Hill Rd - PM Peak Hour**

#### AHET Analysis Synchro 9 Report

**GPI Page 3**

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<tr>
<th>Movement</th>
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<th>SBR</th>
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<td></td>
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<td>0%</td>
<td>0%</td>
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<td>Peak Hour Factor</td>
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<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
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<tr>
<td>Hourly flow rate (vph)</td>
<td>67</td>
<td>73</td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>91</td>
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</tbody>
</table>

#### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked

| vC, conflicting volume | 55 | 262 | 55 |
| vC1, stage 1 conf vol | | | |
| vC2, stage 2 conf vol | | | |
| vCu, unblocked vol | 55 | 262 | 55 |
| tC, single (s) | 4.1 | 6.4 | 6.2 |
| tC, 2 stage (s) | | | |
| tF (s) | 2.2 | 3.5 | 3.3 |
| p0 queue free % | 96 | 100 | 91 |
| cM capacity (veh/h) | 1550 | 696 | 1012 |

#### Direction, Lane #

<table>
<thead>
<tr>
<th>Volume Total</th>
<th>EB 1</th>
<th>WB 1</th>
<th>SB 1</th>
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</thead>
<tbody>
<tr>
<td>Volume Left</td>
<td>67</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>0</td>
<td>91</td>
</tr>
<tr>
<td>cSH</td>
<td>1550</td>
<td>1700</td>
<td>1012</td>
</tr>
</tbody>
</table>

| Volume to Capacity | 0.04 | 0.03 | 0.09 |
| Queue Length 95th (ft) | 3 | 0 | 7 |
| Control Delay (s) | 3.7 | 0.0 | 8.9 |
| Lane LOS | A | A | |
| Approach Delay (s) | 3.7 | 0.0 | 8.9 |
| Approach LOS | A | | |

#### Intersection Summary

- Average Delay: 4.7
- Intersection Capacity Utilization: 16.2%
- ICU Level of Service: A
- Analysis Period (min): 15

---

**AHET Analysis**

**GPI**

**Synchro 9 Report**

**Page 3**

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### Movement Lane Configurations

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<tr>
<th>Movement</th>
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<th>NBT</th>
<th>SBT</th>
<th>SBR</th>
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<td>55</td>
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### Sign Control

- Stop
- Free
- Free

### Grade

- 0%
- 0%
- 0%

### Peak Hour Factor

- 0.72
- 0.72
- 0.72
- 0.72
- 0.72
- 0.72

### Hourly flow rate (vph)

- 3
- 49
- 69
- 76
- 35
- 0

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked

### vC, conflicting volume

- 249
- 35
- 35

### vC1, stage 1 conf vol

- 6.4
- 6.2
- 4.1

### vC2, stage 2 conf vol

- 3.5
- 3.3
- 2.2

### tC, unblocked vol

- 100
- 95
- 96

### cM capacity (veh/h)

- 703
- 1032
- 1563

### Direction, Lane #

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<th>SB 1</th>
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<td>Volume Right</td>
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### Intersection Summary

- Average Delay: 4.3
- Intersection Capacity Utilization: 22.3%
- ICU Level of Service: A
- Analysis Period (min): 15
### Movement Lane Configurations

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<td>55</td>
<td>50</td>
<td>30</td>
<td>30</td>
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### Sign Control

- Free
- Stop

### Grade

- 0%

### Peak Hour Factor

- 0.72

### Hourly flow rate (vph)

- 76
- 42
- 76
- 69
- 42
- 42

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked
- vC, conflicting volume
  - 145
  - 304
  - 110
- vC1, stage 1 conf vol
  - 145
  - 304
  - 110
- vC2, stage 2 conf vol
- vCu, unblocked vol
  - 145
  - 304
  - 110
- tC, single (s)
  - 4.1
  - 6.4
  - 6.2
- tC, 2 stage (s)
- tF (s)
  - 2.2
  - 3.5
  - 3.3
- p0 queue free %
  - 95
  - 94
  - 96
- cM capacity (veh/h)
  - 1425
  - 1700
  - 765

### Direction, Lane #

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<tr>
<td>cSH</td>
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<td>765</td>
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### Volume to Capacity

- 0.05
- 0.09
- 0.11

### Queue Length 95th (ft)

- 4
- 0
- 9

### Control Delay (s)

- 5.1
- 0.0
- 10.3

### Lane LOS

- A
- B

### Approach Delay (s)

- 5.1
- 0.0
- 10.3

### Approach LOS

- B

### Intersection Summary

- Average Delay: 4.2
- Intersection Capacity Utilization: 21.5%
- ICU Level of Service: A
- Analysis Period (min): 15
### Movement Analysis

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</tr>
<tr>
<td><strong>vC2, stage 2 conf vol</strong></td>
<td></td>
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<td><strong>vCu, unblocked vol</strong></td>
<td>256</td>
<td>85</td>
<td>85</td>
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<td><strong>tC, single (s)</strong></td>
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<td><strong>tC, 2 stage (s)</strong></td>
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<tr>
<td><strong>tF (s)</strong></td>
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<td>3.3</td>
<td>2.2</td>
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<td><strong>p0 queue free %</strong></td>
<td>100</td>
<td>93</td>
<td>96</td>
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<td><strong>cM capacity (veh/h)</strong></td>
<td>703</td>
<td>974</td>
<td>1512</td>
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<table>
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<th>Direction, Lane #</th>
<th>EB 1</th>
<th>NB 1</th>
<th>SB 1</th>
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<tbody>
<tr>
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<td>74</td>
<td>110</td>
<td>85</td>
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<tr>
<td><strong>Volume Left</strong></td>
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<td>61</td>
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<tr>
<td><strong>Volume Right</strong></td>
<td>73</td>
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<td><strong>cSH</strong></td>
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<td>1700</td>
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<td><strong>Volume to Capacity</strong></td>
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<td>0.04</td>
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<td><strong>Control Delay (s)</strong></td>
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<tr>
<td><strong>Lane LOS</strong></td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td><strong>Approach Delay (s)</strong></td>
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<td>4.3</td>
<td>0.0</td>
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<tr>
<td><strong>Approach LOS</strong></td>
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<td>A</td>
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### Intersection Summary

- **Average Delay**: 4.2
- **Intersection Capacity Utilization**: 22.0%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBR</th>
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<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>55</td>
<td>60</td>
<td>45</td>
<td>35</td>
<td>55</td>
<td>75</td>
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<tr>
<td>Future Volume (Veh/h)</td>
<td>55</td>
<td>60</td>
<td>45</td>
<td>35</td>
<td>55</td>
<td>75</td>
</tr>
</tbody>
</table>

### Sign Control

- Free
- Stop

### Grade

- 0%

### Peak Hour Factor

- 0.82

### Hourly flow rate (vph)

- 67
- 73
- 55
- 43
- 67
- 91

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)

### Right turn flare (veh)

- Median type
- None

### Median storage veh)

- Upstream signal (ft)

### pX, platoon unblocked

- vC, conflicting volume
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol

### tC, single (s)

- 4.1

### tC, 2 stage (s)

- 6.4

### tF (s)

- 2.2

### p0 queue free %

- 96

### cM capacity (veh/h)

- 1495
- 675
- 985

### Direction, Lane #

<table>
<thead>
<tr>
<th>Lane #</th>
<th>EB 1</th>
<th>WB 1</th>
<th>SB 1</th>
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<tr>
<td>Volume Total</td>
<td>140</td>
<td>98</td>
<td>158</td>
</tr>
<tr>
<td>Volume Left</td>
<td>67</td>
<td>0</td>
<td>67</td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>43</td>
<td>91</td>
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<tr>
<td>cSH</td>
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<td>1700</td>
<td>824</td>
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<td>Volume to Capacity</td>
<td>0.04</td>
<td>0.06</td>
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<td>Control Delay (s)</td>
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<td>Lane LOS</td>
<td>A</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>3.8</td>
<td>0.0</td>
<td>10.4</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
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</tbody>
</table>

### Intersection Summary

- Average Delay: 5.5
- Intersection Capacity Utilization: 27.2%
- ICU Level of Service: A
- Analysis Period (min): 15
| Intersection | | | | |
|-----------------|-------------------|-------------------|-------------------|
| Intersection Delay, s/veh | 4.6 | | | |
| Intersection LOS | A | | | |

| Approach | EB | WB | NB | SB |
|-----------------|-------------------|-------------------|-------------------|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 52 | 146 | 119 | 35 |
| Demand Flow Rate, veh/h | 54 | 152 | 125 | 36 |
| Vehicles Circulating, veh/h | 115 | 84 | 46 | 152 |
| Vehicles Exiting, veh/h | 73 | 87 | 123 | 84 |
| Follow-Up Headway, s | 3.186 | 3.186 | 3.186 | 3.186 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.2 | 5.0 | 4.5 | 4.2 |
| Approach LOS | A | A | A | A |

| Lane | Left | Left | Left | Left |
|-----------------|-------------------|-------------------|-------------------|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Critical Headway, s | 5.193 | 5.193 | 5.193 | 5.193 |
| Entry Flow, veh/h | 54 | 152 | 125 | 36 |
| Cap Entry Lane, veh/h | 1007 | 1039 | 1079 | 971 |
| Entry HV Adj Factor | 0.956 | 0.959 | 0.956 | 0.969 |
| Flow Entry, veh/h | 52 | 146 | 119 | 35 |
| Cap Entry, veh/h | 963 | 996 | 1031 | 941 |
| V/C Ratio | 0.054 | 0.146 | 0.116 | 0.037 |
| Control Delay, s/veh | 4.2 | 5.0 | 4.5 | 4.2 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 | 0 |
### Intersection

<table>
<thead>
<tr>
<th>Intersection Delay, s/veh</th>
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#### Approach

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<th>WB</th>
<th>NB</th>
<th>SB</th>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Conflicting Circle Lanes</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Adj Approach Flow, veh/h</td>
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<td>98</td>
<td>140</td>
<td>85</td>
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<tr>
<td>Demand Flow Rate, veh/h</td>
<td>75</td>
<td>100</td>
<td>142</td>
<td>86</td>
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<tr>
<td>Vehicles Circulating, veh/h</td>
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<td>69</td>
<td>118</td>
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<td>Vehicles Exiting, veh/h</td>
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<td>142</td>
<td>148</td>
<td>51</td>
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<td>3.186</td>
<td>3.186</td>
<td>3.186</td>
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<td>0</td>
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<tr>
<td>Ped Cap Adj</td>
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<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
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<td>4.3</td>
<td>4.7</td>
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#### Lane

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<th>Left</th>
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<td>LTR</td>
<td>LTR</td>
<td>LTR</td>
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<tr>
<td>RT Channelized</td>
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<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
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<td>Critical Headway, s</td>
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<td>5.193</td>
<td>5.193</td>
<td>5.193</td>
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<tr>
<td>Entry Flow, veh/h</td>
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<td>100</td>
<td>142</td>
<td>86</td>
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<td>Cap Entry Lane, veh/h</td>
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<td>140</td>
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<td>Cap Entry, veh/h</td>
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<td>A</td>
<td>A</td>
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## Movement Lane Configurations

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<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
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<tr>
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<td>0</td>
<td>2</td>
<td>100</td>
<td>0</td>
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<td>190</td>
<td>0</td>
<td>205</td>
<td>85</td>
<td>0</td>
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<tr>
<td>Future Volume (Veh/h)</td>
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<td>0</td>
<td>2</td>
<td>100</td>
<td>0</td>
<td>320</td>
<td>1</td>
<td>190</td>
<td>0</td>
<td>205</td>
<td>85</td>
<td>0</td>
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<td>Sign Control</td>
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<td>Stop</td>
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<td>Free</td>
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<td>Free</td>
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<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
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<td>122</td>
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<td>390</td>
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<td>232</td>
<td>0</td>
<td>250</td>
<td>104</td>
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</tbody>
</table>

### Pedestrians
- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked

### vC, conflicting volume
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol
- tC, single (s)
- tC, 2 stage (s)
- tF (s)
- p0 queue free %
- cM capacity (veh/h)

### Direction, Lane #

<table>
<thead>
<tr>
<th>Movement</th>
<th>EB 1</th>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
<th>SB 1</th>
<th>SB 2</th>
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<tbody>
<tr>
<td>Volume Total</td>
<td>2</td>
<td>122</td>
<td>390</td>
<td>233</td>
<td>250</td>
<td>104</td>
</tr>
<tr>
<td>Volume Left</td>
<td>0</td>
<td>122</td>
<td>0</td>
<td>1</td>
<td>250</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>2</td>
<td>0</td>
<td>390</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>cSH</td>
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<td>0.49</td>
<td>0.00</td>
<td>0.19</td>
<td>0.06</td>
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<tr>
<td>Queue Length 95th (ft)</td>
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<td>68</td>
<td>0</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
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<td>D</td>
<td>B</td>
<td>A</td>
<td>A</td>
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<td>Approach LOS</td>
<td>A</td>
<td>C</td>
<td></td>
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</table>

### Intersection Summary
- Average Delay | 10.7 |
- Intersection Capacity Utilization | 51.2% |
- ICU Level of Service | A |
- Analysis Period (min) | 15 |
## HCM Unsignalized Intersection Capacity Analysis

### 2: Slip Ramp & Main St.

#### Main St/Kinderhook St/Albany Ave - Existing AM Peak Hour

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
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<th>NER</th>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Traffic Volume (veh/h)</td>
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<td>0</td>
<td>420</td>
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<td>80</td>
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<tr>
<td>Future Volume (Veh/h)</td>
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<td>0</td>
<td>420</td>
<td>0</td>
<td>80</td>
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<table>
<thead>
<tr>
<th><strong>Sign Control</strong></th>
<th>Free</th>
<th>Free</th>
<th>Yield</th>
</tr>
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<tbody>
<tr>
<td>Grade</td>
<td>% 0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
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<td>0.82</td>
<td>0.82</td>
</tr>
<tr>
<td>Hourly flow rate (vph)</td>
<td>250</td>
<td>0</td>
<td>0</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Upstream signal (ft)</th>
<th>pX, platoon unblocked</th>
</tr>
</thead>
<tbody>
<tr>
<td>vC, conflicting volume</td>
<td>250</td>
</tr>
<tr>
<td>vC1, stage 1 conf vol</td>
<td>250</td>
</tr>
<tr>
<td>vC2, stage 2 conf vol</td>
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</tr>
<tr>
<td>vCu, unblocked vol</td>
<td>4.2</td>
</tr>
<tr>
<td>tC, single (s)</td>
<td>2.3</td>
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<tr>
<td>tC, 2 stage (s)</td>
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<tr>
<td>tF (s)</td>
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### Direction, Lane #

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<th>Volume Total</th>
<th>EB 1</th>
<th>WB 1</th>
<th>NE 1</th>
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</tr>
<tr>
<td>Volume Right</td>
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<td>0</td>
<td>98</td>
</tr>
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### Intersection Summary

| Average Delay | 1.2 |
| Intersection Capacity Utilization | 25.4% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

---

AHETAnalysis

GPI

Synchro 9 Report

Page 2
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**Intersection Summary**
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### Intersection Summary

- **HCM 2000 Control Delay**: 9.9
- **HCM 2000 Level of Service**: A
- **HCM 2000 Volume to Capacity ratio**: 0.49
- **Actuated Cycle Length (s)**: 35.4
- **Sum of Lost Time (s)**: 12.0
- **Intersection Capacity Utilization**: 56.2%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15

**Critical Lane Group**
## HCM Unsignalized Intersection Capacity Analysis

### 1: Albany Ave/Main St. & Kinderhook Street

**Main St/Kinderhook St/Albany Ave - Existing PM Peak Hour**

### Movement

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### Pedestrians

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### Direction, Lane #

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<td>F</td>
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### Intersection Summary

| Average Delay | 11.6 |
| Intersection Capacity Utilization | 52.7% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |
## Movement

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### Direction, Lane #

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### Intersection Summary

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### Queues

1: Albany Ave/Main St. & Kinderhook Street

#### Main St/Kinderhook St/Albany Ave - Signalized PM Peak Hour

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#### Intersection Summary

AHETAnalysis
GPI
### Movement Analysis

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**Intersection Summary**

- HCM 2000 Control Delay: 10.3
- HCM 2000 Volume to Capacity ratio: 0.55
- Actuated Cycle Length (s): 42.7
- Intersection Capacity Utilization: 57.7%
- Analysis Period (min): 15

**Critical Lane Group**
Appendix 4.8.1
Local Planning and Zoning
Figure 4.8.1
Land Use: City of Rensselaer - Rensselaer County
Figure 4.8.2
Land Use: Town of East Greenbush - Rensselaer County
Figure 4.8.4
Land Use: Town & Village of Nassau - Rensselaer County
Figure 4.8.5
Land Use: Town of Chatham - Columbia County
Figure 4.8.6
Land Use: Town of Kinderhook, Villages of Valatie & Kinderhook - Columbia County
Figure 4.8.7
Land Use: Town of Stuyvesant - Columbia County

Legend
- Agricultural
- Residential
- Vacant
- Commercial
- Recreation & Entertainment
- Community Services
- Industrial
- Public Services
- Wild, forested, conservation lands
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.8.8
Land Use: Town of Stockport - Columbia County

Legend
- Agricultural
- Residential
- Vacant
- Commercial
- Recreation & Entertainment
- Community Services
- Industrial
- Public Services
- Wild, Forested, Conservation Lands
- Shared Use Path
- Sidewalk
- Bike Lanes
- Walk/Bike Roadway
- Shared Roadway
- Trailhead
- Stream
- Village Boundary
- Town Boundary
- County Boundary

January 22, 2018
Figure 4.8.9
Land Use: Town of Greenport - Columbia County
Figure 4.9.1
Emergency Medical Service Districts: Albany-Hudson Electric Trail (AHET)
Figure 4.9.2
Fire Department Districts: Albany-Hudson Electric Trail (AHET)