Ashokan Rail Trail Project

6 NYCRR PART 617.7
STATE ENVIRONMENTAL QUALITY REVIEW ACT
NEGATIVE DECLARATION
NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

This Notice and Negative Declaration is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the New York State Environmental Conservation Law ("SEQRA".)

Pursuant to Resolution No. 421 of November 14, 2017, the Ulster County Legislature, as Lead Agency and Project Sponsor, has determined that the proposed action described below will not have a significant effect on the environment and a Draft Environmental Impact Statement will not be prepared.

SEQRA: Type I Action: 12/15/2015 **Status:** EAF Part 3

PROJECT SPONSOR: Ulster County

NAME OF ACTION: In The Matter of the Ulster County Legislature Approval of the Construction of the Ashokan Rail Trail consisting of 11.5 mile pedestrian and bicycle trail along the north shore of the Ashokan Reservoir from Basin Road in the Town of Hurley to NYS Route 28A in the Town of Olive on the Ashokan Trail Easement along the former Ulster and Delaware Railroad right-of-way.

CONDITIONED NEGATIVE DECLARATION: No

PROJECT SUMMARY:

Ulster County (the "County") is proposing the construction of an approximately 11.5-mile pedestrian and bicycle trail that will run along the north shore of the Ashokan Reservoir from Basin Road in the Town of Hurley to NYS Route 28A in the Town of Olive on the abandoned Ulster & Delaware Railroad Corridor (the "Ashokan Rail Trail"), which has been owned by the County since 1979. The Ashokan Rail Trail project (the "Project") is being developed in cooperation with and with funding support from the New York City Department of Environmental Projection ("DEP"). The environmental review for the Project includes three public trailheads to be constructed by DEP.

The Project will be implemented in two phases. The first phase will include the removal and off-site disposal of railroad rail, wooden ties, metal hardware and the felling and disposal of dead and stressed trees. The second phase includes the repurposing of the existing ballast for the trail base, the addition of a stone layer top surface, the replacement of a large failed culvert and a destroyed railroad bridge, maintenance to existing drainage culverts, and development of three public trailheads, which will be constructed by DEP but are included in this SEQR review.

The Project will have a significant positive impact for residents of Ulster County and visitors by providing economic development for Route 28 businesses, expanding non-motorized recreational opportunities, improving public health and quality of life, and further developing Ulster County's rail trail network into a premiere tourism destination.

The Project has been designed to mitigate any potential environmental impacts and will also provide environmental benefits. These benefits include the removal and proper disposal of thousands (35,000+) of creosote-treated railroad ties, repairs and stabilization of unmaintained culverts and drainage ditches, stream daylighting of the Butternut Creek, and embankment erosion reductions and stabilization. Additionally, through interpretive panels and exhibits, trail users will be educated on the importance of the New York City Watershed and the Ashokan Reservoir, the history and significance of the Catskill Park, and the importance of responsible trail use to protect drinking water quality.

The Project design has been developed, from the beginning, with extensive coordination and involvement with DEP. The engineering designs developed by the County's engineering consultant firm, Barton & Loguidice, D.P.C. ("B&L"), were prepared and revised with the significant and frequent input from DEP staff. Throughout the extensive design revisions, the County and B&L have gone to great lengths to reduce and minimize the footprint of the Project, to mitigate environmental impacts, and provide positive environmental benefits where feasible, such as daylighting the Butternut Creek. To ensure sensitive environmental resources would not be adversely impacted and to determine where avoidance and mitigation could be employed, the B&L performed detailed studies with cooperation, assistance and full coordination with DEP. These studies are listed below, and the avoidance and impact minimization are summarized in the sections below and in the detailed studies attached.

HISTORY OF THE PROJECT:

December 15, 2015 – The Ulster County Legislature, pursuant to Resolution No. 480, declared its intent to act as Lead Agency in the matter of constructing the Ashokan Rail Trail Project, determining the action to be Type 1 under SEQRA. The Legislature also created Capital Project No. 459 to authorize and fund necessary engineering studies and environmental reviews.

August 31, 2016 - Ulster County, pursuant to the State Environmental Quality Review Act and 6 NYCRR 617.6(b)(3)(i), circulated by way of letters its Notice of Intent to Establish Lead Agency along with Part 1 of the completed Full Environmental Assessment Form to all Involved and Interested agencies (refer to list below) for the construction of the Ashokan Rail Trail, an 11.5 mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive. The following were identified as Involved and Interested Agencies that received the Notice:

- New York State Department of Environmental Conservation ("NYSDEC")
- New York State Office of Parks and Historic Preservation ("NYS OPRHP")
- United States Fish and Wildlife Service ("USFW")
- United States Army Corps of Engineers ("ACOE")
- New York City Department of Environmental Protection ("DEP")

- Town of Olive
- Town of Hurley
- New York State Department of Transportation ("NYSDOT")

September 20, 2016- As no objections were received from the Involved and Involved Agencies, the Ulster County Legislature became Lead Agency for the Ashokan Rail Trail Project.

August 15, 2017 – The Ulster County Legislature, pursuant to Resolution No. 327, determined and resolved to lawfully segment the execution of the "Ashokan Trail Easement" with the City of New York from the Ashokan Rail Trail Project. The Legislature declared approval of the Ashokan Trail Easement as an Unlisted Action and determined the action would not have an adverse impact on the environment. Further, the Legislature authorized the issuance of a negative declaration for the execution of the Ashokan Trail Easement as provided in 6 NYCRR Part 617.7.

REASONS SUPPORTING THE DETERMINATION:

Methodology

In making this Determination of Non-Significance, the Ulster County Legislature, as Lead Agency and its advisors first examined Part 1 of the Full Environmental Assessment Form ("EAF") and the supplemental data and documentation as contained in the various Reports completed for the project by the Lead Agency's engineering consultants. This work was undertaken over the course of nearly two years (2016-2017) by said Lead Agency's consultants, and a copy of the Full EAF, Parts 1 and 2 are annexed hereto and made a part hereof.

Detailed studies were completed to identify potential impacts, and these studies are included as attachments to this narrative. These studies and analyses include the following:

- Wetland Delineation Report (May 2017), which includes:
    - Wetland Study and Delineation, Mapping
    - Threatened and Endangered Species Habitat Assessment and Coordination Letters
- Traffic Impact Study (March 2017)
- No Adverse Impact Letter from NYS OPRHP (October 2016)
- Environmental Soil Sampling Program, Conclusions and Test Results (May 2017)
- Resolution No. 480- Establishing Ashokan Rail Trail Capital Project (12/15/2015)
- Resolution No. 327- Ashokan Trail Easement Authorization (08/15/2017)
- Ashokan Rail Trail Easement Only - SEQR Full Environmental Assessment Form
- Lead Agency Letters - Notice of Intent to Establish Lead Agency for Ashokan Rail Trail Construction (August 31, 2016)
- Engineering Assessment of Alternatives

<u>Alternative Analysis</u>

The County considered several alternatives including: rail with trail, alternative trail locations, and construction of the trail leaving existing rail and ties in place. Rail with trail was rejected due to the constraints over long stretches in the Ulster and Delaware ("U&D") Railroad Corridor to accommodate both facilities, the requirement from New York City as the underlying land owner to allow either rail or trail but not both, and the adopted policy of the Ulster County Legislature to provide for trail only in this section of the U&D Corridor. It is also important to note that use of the corridor by an operating railroad has not occurred for more than forty (40) years. Alternative trail locations were confined by DEP requirements to the area of the railroad easement/trail easement. Additionally, the cost and environmental impacts associated with deviation off of the existing railroad bed is prohibitive and fails to meet the County's objective to create a safe and highly scenic trail experience that is fully accessible to persons with disabilities. A short deviation (approximately 800 linear feet) from the existing rail bed is proposed as part of the Project to avoid existing wetlands that have formed within this section as a result of the prolonged lack of maintenance of the drainage facilities. Construction of the trail on top of the existing steel rail and ties was rejected for several reasons, including the following: difficulty associated with trail and bridge construction with the rail in place: on-going maintenance needs: increased disturbance necessary to accommodate the fill needed to cover rail and ties; uneven consolidation of the trail surface as wooden ties further decay; frost heaves from trapped moisture; drainage and erosion issues; the condition of the underlying rail bed with over 95 percent of the existing ties being decayed; narrowed trail width; and the requirement from DEP that, for water quality purposes, the existing creosote-treated wooden ties be removed.

Evaluation of Impacts of the Proposed Action

Under the circumstances of the particular related actions as hereinafter evaluated, and the extensive environmental analysis of the Project, the Lead Agency finds that the facts and information available to it support a determination that all probable and relevant adverse environmental effects have been identified and that they will not be significant, and therefore, an Environmental Impact Statement is not necessary.

The environmental analysis of the reasonably related long-term, short-term, direct, indirect and cumulative impacts of these related and simultaneous actions started with an analysis of the existing conditions of the Project site. The review then analyzed the environmental impacts of the proposed changes and actions, while comparing those impacts with the impacts on existing land use to determine if the proposed action may have a significant adverse environmental impact.

No other related or subsequent actions are included in any long-range plans for the Project site, nor likely to be undertaken, nor dependent on the actions which are now under consideration. A listing of all of the Involved and Interested Agencies for the Project is provided at the end of this Negative Declaration.

The Lead Agency's examination of the specific environmental impacts addresses those areas required under Part 617.7(c) and all of the areas included under Part 2 of the Full Environmental Assessment Form (EAF) as they relate to the proposed actions and changes and their magnitude. In addition, the Lead Agency further examined those potential adverse changes for those questions answered "Yes" on Part 2 of the EAF (the numbers below correspond to all numbered questions on Part 2 of the Full Environmental Assessment Form answered as "Yes") as follows:

1. Impact on Land

The Ashokan Rail Trail ("ART") will be constructed in the same location and on the same footprint as the existing single-tracked railroad bed with only one exception where the Trail will be re-routed from the existing railroad bed for approximately 800 ft. to avoid B&L Delineated Wetland "O". The steel rails, wooden ties and other metal track hardware will be removed and disposed of from the Project corridor (with the exception of a short double-tracked area- or "siding"- to be adapted and re-used for historic interpretation). It is noted by the Lead Agency that this section to be left in place lies outside of the drainage area to the Ashokan Reservoir and as such will not impact water quality. Following the removal of the track materials and rough grading, the ART will be constructed on the remaining ballast with additional stone added (typically 10" thick) and spread and leveled to provide additional base and a top course for the ART. The use of this stone and other grading necessary for the trail will enable the construction of the trail to remain within +/- 12 inches of the current trail profile with the exception of the replacement of the Bridge at Boiceville discussed later.

The Project includes the development of three public trailheads to be designed and constructed by DEP. Land disturbance for the proposed trailheads will be limited to: 0.50-acres for the Woodstock Dike Trailhead in West Hurley; 1.32-acres at the Ashokan Station/ Jones Cove Trailhead in Shokan; and 0.75-acres at the Boiceville Trailhead near Route 28A in Boiceville. The Woodstock Dike and Boiceville Trailheads will be unpaved. The Ashokan Station is proposed to be paved. All trailheads are designed to incorporate stormwater run-off infiltration to avoid any increase in stormwater run-off or velocities.

The construction of both the Butternut Creek Bridge and the Boiceville Bridge will take place close to bedrock and in areas where the water table is less than 3 feet. Construction means and methods approved by the DEP and NYSDEC will be utilized to avoid adverse impacts associated with these conditions. Details and materials will also be approved by both DEC and NYSDEC. No blasting is proposed or anticipated. The Boiceville Bridge will be raised approximately seven (7) feet and extended sixty (60) feet in length to allow the passage of the fifty (50) year storm with two (2) feet of additional clearance (freeboard) which will help reduce velocities, erosion, and scour on the land during marked storm events.

Several cracked concrete culverts will be repaired using minimally invasive techniques and ten (10) new shallow culverts will be installed just below the surface of the ART to convey runoff to the existing swales and eventually to stone aprons designed to reduce energy, velocity, eliminate erosion, and dissipate runoff into a sheet flow condition also reducing impacts on the land.

When originally constructed, sections of the rail, ties, and ballast were installed on embankment material (fill) to provide a near level grade and to traverse, or span, the surrounding undulating terrain. During construction of the ART, the trail surface will typically be within 12 inches (in height) from the original surface with its centerline within three (3) feet from either side of the railroad track centerline. Vegetated slopes along the Project corridor will be left in place to maintain their current stability, reduce risk of erosion, and maintain existing buffers from wetland and other sensitive areas.

The bridge construction includes areas where minor sections of fill will be required and will utilize slopes greater than fifteen percent (15%) to minimize the disturbance area "footprint." These thirty-three percent (33%) to fifty percent (50%) slopes are standard engineering practice in bridge construction and will be stabilized to inhibit erosion and sediment transportation. Small sections of fill are also necessary to repair washouts which will also be stabilized to inhibit erosion. Stormwater will be conveyed through existing vegetated drainage swales where it will be directed to sheet flow and infiltration locations or into existing streams. Check dams will be utilized as necessary to prevent sediment laden water from flowing into existing ditches, swales, wetlands, streams and other watercourses.

The Project is estimated to take approximately eighteen (18) months to complete. This time frame accounts for careful attention to sensitive areas as part of the construction management plan and limitations in site access and movement of materials, particularly during the winter months, that may impede the typical speed of construction. Construction will occur during day time hours. The remoteness of the corridor from developed areas with very limited homes nearby and only in one isolated area (Reservoir Road) ensures that the Project will not result in negative impacts to the land uses in the Route 28 corridor or the surrounding communities.

Additionally, construction sequencing and acceptable work periods will be tailored to suit the ecological needs of the ART corridor including avoiding construction near any potential bald eagle nests during the breeding season, refraining from tree clearing activities during the active Indiana and northern long-eared bat season, prohibiting entry into trout streams during spawning periods, and avoiding wetland and stream impacts to the greatest extent possible with a project impact on less than ½ acre of wetlands.

Based upon the factors noted above, the Project plans, and the supporting studies, the Lead Agency finds that there will be no substantial adverse change in existing impacts to the land as a result of Project.

3. Impacts on Surface Water and Groundwater

Construction of the Project will result in disturbance to a NYSDEC mapped wetland (AS-20) as well as very minor disturbance to unmapped federally jurisdictional wetlands. A wetland delineation was performed by B&L, and the Wetland Delineation Report was prepared. This effort was supplemented by DEP staff, who worked with B&L to form a consensus on additional wetland locations and boundaries. Each wetland, stream, swale or other water course was mapped and analyzed. To avoid and mitigate impacts to the maximum extent possible the centerline of the trail was shifted along the corridor where possible. These horizontal and vertical shifts of the ART were designed at twenty-five (25) ft. intervals along the entire Project corridor to minimize disturbance to land, avoid impacts to water courses, and to reduce the need for transport of materials both in and out of the Project corridor. In order to further reduce impacts to land and water, the trail shoulders were reduced from five (5) ft. in width on each side of the trail (originally proposed based on AASHTO guidelines for multi-use trail design) to zero (0) ft. in width in most locations. A maximum width shoulder of 3 ft. is being utilized in areas where feasible and where impacts to sensitive areas will not occur. The proposed trail width was reduced from twelve (12) feet to ten (10) feet in areas that are immediately adjacent to water courses, wetlands, and sensitive areas identified by B&L and/or DEP. The resulting disturbed areas fall within the General Permit issued by the ACOE for wetland disturbance and within NYSDEC guidelines.

Appropriate erosion and sediment control measures will be utilized during and post construction to stabilize any disturbed areas. A Stormwater Pollution Prevention Plan ("SWPPP") has been developed in consultation with DEP, which highlights these measures, provides the details and "tools" to install them properly, and includes means to enforce compliance by construction contractors, if necessary. Best Management Practices as outlined in the Project SWPPP and the NYSDEC Stormwater Management Design Manual (Blue Book) is incorporated into the design of the trail to be used by the contractor during construction to minimize and prevent erosion and sedimentation of existing watercourses. Post-construction drainage patterns and characteristics will generally remain the same as the pre-construction conditions with a few minor exceptions.

To further minimize impacts to wetlands approximately 800 ft. of trail was re-routed from the existing railroad centerline to the north of B&L Delineated Wetland "O" to completely avoid impacts to an unmapped federally-jurisdictional wetland. Other portions of the ART were shifted and narrowed to minimize impacts to existing mapped and unmapped streams and wetlands. Review the NYSDEC and the United States Army Corps of Engineers (USACE) is ongoing, and permits have been submitted and will be obtained prior to commencement of construction activities. Any additional required permit requirements including wetland improvements will be incorporated into the final construction drawings.

In order to ensure the stability and future safety of the ART, multiple existing culverts will require repair. Repairs will be limited to minor concrete crack and spalling repairs and the filling of scour pits at the outlet of the existing culverts. Work performed in a flowing stream, will utilize temporary dewatering and rerouting of the stream so as to perform the work in the dry. This will limit the amount of sediment potentially disturbed during culvert repairs. Several cracked concrete culverts will be repaired using minimally invasive techniques and ten (10) new shallow culverts will be installed just below the surface of the trail to convey runoff in areas with existing water to the existing swales and eventually to stone aprons designed to reduce energy and velocity and dissipate runoff into a sheet flow condition.

The large concrete Butternut Creek Culvert, where the wing walls have collapsed and the supported railroad embankment is heavily eroded, will be removed and replaced with a prefabricated steel truss bridge structure that "daylights" the Creek, restores the natural flow of the Butternut Creek - a Class A,A(t) waterbody, and improves passage for fish and other wildlife. The new Butternut Creek Bridge will be founded on short foundations (abutments) high above the Creek, and all concrete materials from the failed culvert, including the concrete bottom of the former culvert, will be removed. This restoration will include stabilization and protection of the remaining high-fill railroad bed embankment.

In addition to the removal of the failed Butternut Creek Culvert, the Project also includes the replacement of the destroyed former Boiceville Trestle and removal of elements that remain in the stream. This bridge carried the railroad over the Esopus Creek at Boiceville. The bridge was destroyed during storm disaster events in 2011. The Project includes a new pedestrian bridge capable of supporting emergency vehicles at this location with a raised profile approximately seven (7) feet above the former Trestle's elevation and extending the former bridge's length by sixty (60) feet so that the new bridge structure is installed above the 50 year flood zone with two (2) feet of additional clearance. The new bridge replaces the former three-pier structure with one of two-piers limiting work in the stream and reducing in stream obstruction. The new abutments are designed with extensive scour protection. During the reconstruction of this bridge, coffer dams will be employed to protect the Esopus Creek from disturbance of bottom sediments. Turbidity curtains and other Best Management Practices will be utilized to eliminate impacts to the waterbody. Each practice will require written approval by the project team and DEP prior to installation. The project will also remove the remains and debris from the former structure from the Esopus Creek.

The Project will remove all of the deteriorated ties in the corridor which will be appropriately disposed of. The removal of these ties from close proximity to the Reservoir is an example of best management practices as required by DEP.

The project does not propose the use of groundwater in any fashion as part of its construction or operation. Drainage improvements will not redirect water flow to the extent that recharge areas are affected. Finally, no herbicides are permitted as part of the maintenance of the trail as noted in the operations plan for the project and by the County's local law that prohibits their use on County property.

Based upon the above, the Project plans, and supporting studies, the Lead Agency finds that there is no substantial adverse change in existing ground or surface water quantity or quality as a result of project.

5. Impact on Flooding

Portions of the ART are located within a one-hundred (100) year floodplain. However, where this occurs no major changes will be made that relate to trail construction with the exceptions of the new bridge at Boiceville and Butternut Creek. The proposed Boiceville Bridge has been raised approximately seven (7) ft. higher than the former bridge, which collapsed during a major flood event in 2011. The new bridge will be designed to fully pass the fifty (50) year storm below the structure with two (2) feet of additional clearance (freeboard). The bridge will also pass the 100 year storm event without being overtopped. The failed Butternut Creek Culvert will be removed and replaced with a prefabricated steel truss bridge which will "daylight" the Creek and significantly increase the hydraulic capacity of this system.

Most of the trail itself lies outside of the 100 year floodplain, and those areas where the trail lies within the floodplain have been designed to ensure that "no rise" occurs and that the trail itself is resistant to the impacts of flooding.

Based upon the above, the Project plans, and supporting studies, the Lead Agency finds that there no substantial adverse change associated with flooding as a result of the Project.

7. Impact on Plants and Animals

The U.S. Fish and Wildlife Service ("USFWS") New York Field Office's website was reviewed to determine whether any federally listed endangered, threatened, or candidate species are known to inhabit the proposed Project area. The USFWS Information, Planning and Conservation (IPaC) System reported three federally protected species that could potentially inhabit the Project corridor: the Indiana bat (*Myotis sodalis* – Endangered), the northern long-eared bat (*Myotis septentrionalis* – Threatened), and the bog turtle (*Clemmys muhlenbergii* – Threatened).

Additionally, the New York Natural Heritage Program ("NHP") was queried for information regarding the reported presence of any endangered species, threatened species, species of special concern, or significant natural communities within or adjacent to the Project area. A response was received from the NHP on July 26, 2016, which indicated three records of rare or state-listed animals or plants and significant natural communities at the site or in its immediate vicinity. The bald eagle (*Haliaeetus leucocephalus*- Threatened) was identified to have nested within four hundred (400) feet of the Project corridor. An Indiana bat maternity colony was identified within two-hundred, fifty (250) feet of the Project corridor. Additionally, a high quality occurrence of an uncommon community type, a bluestone vernal pool, was identified 0.5 miles east of the corridor.

Indiana and Northern Long-eared Bats

In accordance with the 2016 Range-wide Indiana Bat Summer Survey Guidelines (this document applies to both Indiana bat and northern long-eared bats), most trees greater than 3" diameter at breast height ("DBH") are considered potential habitat for the northern long-eared bats, and greater than 4" DBH for the Indiana bat. The dominant tree species observed within the Project corridor include: red maple (*Acer rubrum*), striped maple (*Acer pensylvanicum*), shagbark hickory (*Carya ovata*), silver maple (*Acer saccharinum*), northern red oak (*Quercus rubra*), eastern white pine (*Pinus strobus*), and American beech (*Fagus grandifolia*). Woody vegetation, including shrubs less than 3" intermixed with larger DBH trees (most of which are dead and dying ash trees), are proposed for clearing throughout the linear length of trail. The section titled, "Tree Clearing Activities," provides details regarding the trees to be cut. In accordance with the aforementioned USFWS resources, trees greater than 3" DBH requiring removal are to be cut only between November 1st and March 31st during the conservation cutting window timelines.

The proposed Project is not likely to adversely affect the northern long-eared or Indiana bats, or their suitable habitats, due to the selective clearing to be conducted along a linear corridor and the availability of large tracts of forestland adjacent to the proposed corridor that will remain untouched. Tree clearing activities will not occur during the active Indiana and northern long-eared bat season.

Bog Turtle

The bog turtle, the smallest of the emydid turtles, spends much of the time buried in the mud and therefore has a reputation for being secretive. While they prefer fens, highly acidic wetlands and areas of soft, deep mud are considered suitable habitat. Several wetland complexes are adjacent to, but not within, the proposed areas of disturbance for the Project. Two wetland complexes will be slightly impacted as a result of the Project. Field delineated Wetlands K and L, identified as correspondent to NYSDEC Mapped wetland AS-20, were emergent in nature but did not contain the deep mucky soils required by this species or microtopographic relief for basking. Additionally, a large patch of common reed (*Phragmites australis*) was noted as dominant which due to plant density prohibits basking. Wetland O, which will be avoided by this Project, was also emergent but shaded over by the upland tree canopy, lacking the necessary sunlight and microtopographic relief for basking. Additionally, the soils were restricted at twelve (12) inches with the presence of ballast. No impacts are expected to other wetlands delineated within the corridor.

Bald Eagle

Bald eagles prefer habitat along large bodies of water and shoreline area. The Project corridor is located along and within close proximity to the Ashokan Reservoir and Esopus Creek. A confirmed bald eagle nest with young was reported by the USGS Breeding Bird Atlas ("BBA") as well as the DEP and the NHP. However, during coordination with the NYSDEC, the nest that was originally reported to be within regulation distance of the Project was not successful and is no longer active. Two other territories are active within .5 mile of the Project. It is understood that impacts may occur to this species as a result of loud construction noises during the nesting season. To minimize potential impacts and the necessity for a BGEPA permit, any construction activities within six-hundred, sixty (660) feet of a nest will be scheduled during the non-breeding season from mid-September to December. In addition, loud noises such as back up alarms will be kept to a minimum through the use of white noise emitting back alarms instead of the traditional beeping alarms.

Additionally, NYSDEC and DEP have ongoing coordination to improve bald eagle habitat along the Ashokan Reservoir. As such, NYSDEC recommends that no tree removal occur within two hundred (200) feet of the shoreline, no white pines be removed within three hundred (300) feet of the shoreline, and no white pines larger than twenty-five (25) inches are removed at any location within a project site. (Please the Threatened and Endangered Species Habitat Assessment) For this Project, less than twenty (20) white pine trees within the DBH range of four (4) inches to fourteen (14) inches will be cut along the entire corridor for trail construction purposes and all lie within close proximity to the centerline of the trail and pose an immediate threat to the safety of the proposed ART.

Tree Clearing Activities

In August of 2017, representatives from the County and B&L delineated, marked in the field and GIS mapped trees that needed to be removed for the construction of the ART as well as "hazard trees," dying or dead trees that could pose a threat if they were to fall onto the trail. In total, approximately 2,300 trees were identified along the 11.5-mile Project corridor to be removed to allow for the ART construction and/or protect the safety of its users. Based on the data collected during the field marking, more than two-thousand, one-hundred (2,100) of the total two-thousand, three-hundred (2,300) trees delineated to be cut were categorized as dead, downed or stressed (with the large majority white ash tree showing evidence of infection by emerald ash borers.) Less than two-hundred (200) trees delineated for removal are healthy, and the majority of these are smaller diameter trees that have grown up into the culverts, railroad bed edges, and drainage ditches over the past years when little or no maintenance was conducted along this corridor. These specific tree counts do not include several areas totaling approximately 1.9 acres that need to be cleared to construct the new Butternut Creek Bridge, install the new Boiceville Bridge over the Esopus Creek, and prepare for the re-routed trail planned to avoid Wetland O. These areas have been delineated on the plans and timed to be cut so as to avoid impacts to nesting species of concern.

The proposed tree clearing is limited to hazard trees and trees that require removal to construct the trail and/or major bridge structures. No tree clearing for viewshed enhancement has been proposed. The Project plans provide specific requirements to ensure that tree and brush coverage along sloped areas of the railroad embankment remain undisturbed.

The Lead Agency notes that no endangered species were located in the areas proposed for disturbance by the construction of the Project. In addition, the width of the trail and the placement of the trailhead areas are such that the movement of any resident migratory fish or wildlife species will not be impacted. The daylighting of the Butternut Creek is likely to improve connections for some species.

Based upon the above, the Project plans, and supporting studies, the Lead Agency finds that the will not be any removal or destruction of large quantities of vegetation or fauna not substantial interference with the movement of fish or wildlife species nor will there be any significant impacts to habitat or other natural resources as a result of the Project.

10. Impact on Historic and Archaeological Resources

The proposed Project corridor is located along the former Ulster & Delaware (“U&D”) Railroad Corridor and partially within a segment of the U&D Corridor eligible for the National Register, which runs from Shokan to Phoenicia. During the preliminary design phase of the Project, a State Historic Preservation Office (“SHPO”) Cultural Resource Information System (“CRIS”) query was submitted as part of SEQR coordination. A letter was received on October 3, 2016 stating that the proposed Project will have No Adverse Impact upon the historic Ulster and Delaware Railroad corridor providing a Preservation Plan be developed, historic interpretation be utilized along the trail, and preliminary plans be submitted to SHPO for review of these features. The Project as designed will meet all of SHPO’s requirements and includes not only a recreational experience, but an educational and cultural resource as well. At a minimum, the Project will include a preserved section of rail with improvements that will be used for interpretive purposes. In addition, improvements versus replacement are planned for all the major culverts and drainage structures with the exception of Butternut Cove. Other applications that will be further developed include:

- Interpretive panels that tell the story of the former communities displaced by construction of the Ashokan Reservoir
- Interpretive panels that describe the importance of the Ashokan Reservoir and New York City Watershed and the history of its construction
- Identification of historic elements along the reservoir, such as the still remaining original bridge abutments and former train stations
- Panels educating visitors on the history of the Catskill Park
- Signage and educational materials regarding wildlife

The proposed alignment of the trail follows the existing railbed and previously disturbed areas. As such, no impacts to archeological resources are anticipated. The areas adjoining the Project are in lands largely owned by DEP and the Project site is eligible to be utilized for railroad purposes. In addition, access to the Ashokan Reservoir for fishing that includes boating is currently available by DEP Access Permit only. The lands associated with the Project including the proposed trailheads are removed from residential neighborhoods and will not be an impact to residents or businesses.

Based upon the above, the Project plans, and supporting studies, the Lead Agency finds that there no impairment of the character or quality of important historical, archaeological, architectural or aesthetic resources or of existing community or neighborhood character as a result of the Project.

13. Impact on Transportation

A Traffic Impact Study ("TIS") was conducted and completed for the Project along NYS Route 28 and in the locations of the proposed DEP trailheads at the Woodstock Dike in West Hurley, Shokan Station/ Jones Cove in Shokan, and at Route 28A in Boiceville. The TIS assessed the impacts anticipated to nearby roads and intersections from anticipated visitors to the ART. It was determined that impacts to study intersections were negligible, and that traffic generated by the Project did not require mitigation.

The trailheads associated with the Project will provide parking limited to approximately one-hundred, fifty parking spaces distributed along the 11.5-mile corridor, only one of which will be paved. The Project will not degrade pedestrian and bicycle accommodations on the NYS Rout 28 Corridor, and it is anticipated to improve and expand such accommodations off the Corridor. The Lead Agency finds that the Project is likely to result minor alterations of the traffic in the NYS Route 28 corridor. However, it notes that the corridor is not congested in the area of the Project and that peak traffic periods expected as a result of the construction of trail and trailheads do not coincide with peak AM and PM traffic periods during the week. Level of service estimates for the trailhead areas is within acceptable parameters and no signalization is warranted.

Based upon the above, the Project plans, and supporting studies, the Lead Agency finds that there no substantial adverse impact on transportation as a result of the Project.

16. Impact on Human Health

Active and former railroad corridors are often associated with uncharacterized spills and accumulation of potentially hazardous materials. Soil borings within the Project corridor completed by the DEP indicated presence of PAHs and levels of copper and zinc above Eastern USA background concentration ranges. Additional soil sampling by B&L throughout the corridor was performed at representative locations to further evaluate the presence of hazardous materials (See Environmental Soil Sampling Program Results). Results of the completed field investigation revealed no parameter concentration exceedances in the analyzed surface soil samples when compared to the NYSDEC Part 375 SCOs for Restricted-Residential Use.

The Project includes removal of approximately thirty-five thousand (35,000) wooden ties treated with creosote, which will be removed from the corridor and properly disposed of off-site and out of the New York City Watershed. Clean materials will be imported to the Project site for the trail surface, effectively creating a "cap" of the underlying materials throughout the Corridor. Four (4) inches of clean crushed stone surface course will be imported to cover the ballast at a width of twelve (12) feet, and three (3) inches of clean imported topsoil will lay adjacent to the trail and will cover all soils disturbed during construction of the Project.

In addition to the soil boring work, B&L conducted a review of spill records within or adjacent to the Project site. Twenty spills were identified during record review within or adjacent to the Project corridor, all of which have been closed by the NYSDEC. These reported spills are no longer active and have either met State cleanup standards or have received additional corrective action. Several spills did not meet cleanup standards, but these are not a concern for this Project due to limited contamination occurring. One of the spills that did not meet cleanup standards and was of a significant quantity was Spill Number 0801824 located at a former Mobil station (located at 1460 NYS Route 28 in West Hurley) in which 2,856 tons of soil and 5,312 gallons of water were removed from the site and monitoring wells were installed. This site is 700 feet north of the proposed trail on the north side of NYS Route 28. Shallow subsurface soil samples taken within the Project corridor and downgradient from the former Mobile station were tested in April and May 2017. Results of this testing indicated that the parameter concentrations reported were below the applicable NYSDEC Part 375 SCOs for Restricted-Residential Use.

Based upon the above, the Project plans, and supporting studies the Lead Agency finds that the Project will not create a hazard to human health. Rather, as a new public recreational corridor, the Project is expected to result in positive impacts to public health, allowing residents of all ages and abilities to walk, run, bicycle, and/or cross-country ski on a fully-accessible, multi-use trail that is buffered and separated from vehicular traffic.

<u>Examination of Additional Environmental Impacts as Required under Part 617.7 (c)</u>

In addition to the specific questions provided for in the EAF Part 2, the Lead Agency also examined the Project as provided for under Part 617.7(c) as noted below:

A. <u>Encouraging or Attracting a Large Number of People to a Place or Places for more than a Few Days, Compared to Who Would Come to Such a Place Absent the Action:</u>

The Project covers a corridor that is approximately 11.5 mile long and includes three trailheads adequately spaced along the corridor to allow convenient access along its length. The length of the corridor and the facilities provided are designed to handle larger numbers of people than currently utilize the site. The design includes appropriately sized parking areas to accommodate those that will utilize the facility, and the traffic analysis indicates that the both regional and local roadways including intersections have sufficient capacity to accept this increase in traffic without significant impacts or improvements. The Project will be open to public use from sunrise to sunset only, eliminating concerns about overnight stays and the additional impacts that this would bring.

Based upon the foregoing, increasing numbers of people that will be attracted to the site can be accommodated so as not to cause any significant adverse environmental impacts.

B. <u>The Creation of a Material Demand for Other Actions that would Result in One of the Above Consequences</u>

The construction of Project and related appurtenances over the 11.5 mile route will not create any material demand for other actions which would result in one of the previously discussed consequences. The site characteristics and mitigative engineering methodology employed allow the Project to be constructed without adverse environmental effect. In addition, the Lead Agency working with local police and fire services has completed a Cooperative Security Agreement that speaks directly to the safety and emergency management plans for the Project. The Agreement illustrates that, by working cooperatively, that the material demand for essential services, fire protection or emergency response can be accommodated with the existing availability of personnel and equipment.

The Project will not cause any material increase in population or directly affect additional development which would have an adverse effect upon the environmental criteria set forth above and studied herein.

C. <u>Changes in Two or More Elements of the Environment, No One of Which has a Significant Impact on the Environment, But when Considered Together Result in a Substantial Adverse Impact on the Environment</u>

Based upon the information contained in this Negative Declaration of Environmental Significance and the record before the Lead Agency, there will be no changes in two or more elements of the environment which, when considered together would result in a substantial adverse impact on the environment.

D. <u>Two or More Related Actions Undertaken, Funded or Approved by an Agency, None of Which has or Would Have a Significant Impact on the Environment, but When Considered Cumulatively Would Meet One or More of the Criteria of Part 617.7(c)</u>

None of the probable impacts on the environment that are associated with or which result from incremental or increased impacts of this action, when such impacts are added to other related past, present or reasonably foreseeable future actions, will be significant. The Lead Agency has reviewed and analyzed the Project plans, the Environmental Assessment Forms, Engineering and Environmental Studies, all related Addenda, the Administrative Record and the physical changes to the environment which will take place simultaneously or sequentially and has determined that their combined and/or cumulative effects will not be significant.

In regard to any subsequent actions that may possibly arise as the result of the proposed ART Project, the Lead Agency has addressed all identified and relevant long-term, short-term and cumulative impacts and effects of the proposed activities and actions, as well as any related actions, as now submitted, and the County of Ulster, has no identifiable long-range or overall plans for any subsequent development, changes in use or other activities relating to the ART Project.

Approval of the Action contemplated by the current Project now before the Ulster County Legislature does not commit the Lead Agency to any particular course of action with respect to future development of the ART and associated trailheads beyond what is analyzed herein. Any future physical expansion of the ART, beyond that which is approved, will require independent and separate environmental review pursuant to SEQRA, unless the same shall be lawfully determined to be designated as a Type II Action or an Exempt Action in accordance with 6 NYCRR Part 617 et. seq.

Due to the continued environmental and other administrative review requirements of any subsequent development activities in the area of the Project on a case by case exercise of discretion by reviewing agencies and officials, it is not necessary nor reasonable to require at this time a hypothetical "worst case" analysis of all speculative environmental effects or potential environmentally threatening uses which could be anticipated at some time in the future.

The Lead Agency is satisfied that any possible environmental effects of any future development associated with the ART within the Towns of Hurley and Olive and the New York City Watershed, or any change in use of the ART infrastructure appurtenances is capable of being adequately addressed through subsequent discretionary, administrative and environmental review.

In making this Determination of Non-Significance, the Lead Agency has not balanced any potential benefits of the proposed action against potential harm.

CONCLUSION:

Based on the information currently available to the Lead Agency and the above analysis and evaluation of all the relevant and probable environmental impacts related to the activities and actions herein proposed, the Ulster County Legislature, as Lead Agency and Project Sponsor, determines that there will be no significant adverse environmental impacts as a result of the Ashokan Rail Trail Project, and no Environmental Impact Statement will be required. Therefore, this Determination of Non-Significance and Negative Declaration under SEQRA is hereby approved, adopted, and issued by the Lead Agency. (See also; Lead Agency Resolution annexed hereto and made a part hereof as Exhibit "A.")

CONTACT PERSON: Kenneth J. Ronk, Jr., Chairman
Ulster County Legislature
244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3900

FILINGS:

Pursuant to 6 NYCRR Part 617.12 (b) a copy of this Negative Declaration is being filed with the following:

NYSDEC Environmental Notice Bulletin
http://www.dec.ny.gov/enb/enb.html

Mr. Paul Rush, P.E., Deputy Commissioner
Bureau of Water Supply
New York City Department of Environmental Protection
Bureau of Water Supply
59-17 Junction Blvd.
Flushing, New York 11373

Mr. Todd Westhuis, P.E., Regional Director
New York State Department of Transportation – Region 8
4 Burnett Boulevard
Poughkeepsie, New York 12603

Ms. Kelly Turturro, Regional Director
New York State Department of Environmental Conservation- Region 3
21 South Putt Corners Road
New Paltz, New York 12561

Historic Preservation Field Services Bureau
New York State Office of Parks, Recreation & Historic Preservation
Peebles Island, PO Box 189
Waterford, New York 12188-0189

Town Clerk
Town of Olive
PO Box 96
West Shokan, New York 12494

Town Clerk
Town of Hurley
10 Wamsley Place, PO Box 569
Hurley, New York 12443

Town Clerk
Town of Woodstock
47 Comeau Drive
Woodstock, New York 12498

United States Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, New York 13045

United States Army Corps of Engineers
New York Regulatory Branch
Western Permit Section Counties
26 Federal Plaza, Room 1937
New York, New York 10278-0090

DATED: 11/20/17, 2017

KENNETH J. RONK, Jr., Chairman
Ulster County Legislature

CERTIFICATION

The undersigned hereby certifies that the annexed SEQRA Resolution and Negative Declaration with Notice of Determination of Non-Significance, Being In The Matter of the Ulster County Legislature Approval of the Construction of the Ashokan Rail Trail and dated the 11/17, 2017, has been duly filed this day in the Legislative Offices of the Ulster County Legislature located at 244 Fair Street, Kingston, New York 12401.

DATED: 11/20/, 2017

Victoria A. Fabella
Victoria A. Fabella, CLERK
Ulster County Legislature

ATTACHMENT A
ULSTER COUNTY LEGISLATURE
RESOLUTION NO. 421
NOVEMBER 14, 2017

Resolution No. 421   November 14, 2017

Adopting and Issuing A Negative Declaration Under 6 NYCRR Part 617 State Environmental Quality Review Act (SEQRA) By The Ulster County Legislature For The Construction Of The Ashokan Rail Trail– Capital Project No. 459- Department Of Planning

Referred to: The Economic Development, Tourism, Housing, Planning and Transit Committee (Chairman Maloney and Legislators Berky, Delaune, Lapp, Litts, Maio and Rodriguez), and The Public Works and Capital Projects Committee (Chairman Fabiano and Legislators Greene, Litts, Loughran, and Maloney)

Deputy Chairman of the Economic Development, Tourism, Housing, Planning, and Transit Committee, Hector Rodriguez, offers the following:

WHEREAS, this resolution has been submitted by the County Executive on behalf of the Department of Planning; and

WHEREAS, pursuant to Resolution No. 480 passed on December 15, 2015, the Ulster County Legislature established Capital Project No. 459 to provide for design and engineering work for the Ashokan Rail Trail and approved funding for professional engineering services; and

WHEREAS, pursuant to Resolution No. 480 passed on December 15, 2015, the Ulster County Legislature declared its intent to act as Lead Agency for the Ashokan Rail Trail Project (the "Project") as provided for in 6 NYCRR Part 617.6(b)(3) of the Regulations pertaining to Article 8 of the Environmental Conservation Law of New York State ("SEQRA") and determined that the Project was a Type I Action that required a coordinated review; and

WHEREAS, Ulster County circulated the necessary notifications on August 31, 2016 and receiving no objections became Lead Agency 30 days after this date; and

WHEREAS, pursuant to Resolution No. 327 passed on August 15, 2017, the Ulster County Legislature authorized the execution of the Ashokan Trail Easement with the City of New York, determining that approval of the Ashokan Trail Easement was a discrete unlisted action separate and apart from any trail construction and issued a negative declaration as provided under 6NYCRR Part 617.7; and

WHEREAS, Ulster County has examined the proposed action consisting of the construction of the Ashokan Rail Trail along the Ashokan Trail Easement, including removing rail, ties and other track materials and developing three trailhead areas, to create a public recreational trail and prepared the Environmental Record as now on file with the Clerk of the Legislature; and

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WHEREAS, as part of the Project approval process, the County has completed an expanded Environmental Evaluation of Impacts and Negative Declaration that includes an analysis of impacts to historic and archeological sites, wetlands and water bodies, threatened or endangered species, traffic, cumulative growth, and other environmental considerations as required under 6 NYCRR Part 617 of the Regulations of Article 8 of the Environmental Conservation Law of New York State ("SEQRA"); and

WHEREAS, pursuant to the Regulations, the County Legislature has considered the significance of the potential environmental impacts of the Project by (a) using the criteria specified in Section 617.7 of the Regulations, and (b) examining the EAF for the Project, including the facts and conclusions in Parts 1, 2 and 3 of the EAF, together with other available supporting information, to identify the relevant areas of environmental concern, and (c) thoroughly analyzing the areas of relevant environmental concern; and

WHEREAS, such evaluation of impacts and negative declaration has been filed with the Clerk of the Legislature and made available to members of the Legislature; and

WHEREAS, Ulster County has addressed all SEQRA issues as identified, considered and examined by the Involved and Interested Agencies and members of the public in conducting the environmental review and in so doing, hereby determines that the Project will not have a significant adverse environmental impact, will not require the preparation of a Draft Environmental Impact Statement with respect to the Project, and has made a determination of non-significance under SEQRA ("Negative Declaration"), a copy of which is annexed to this Resolution and made a part hereof; now, therefore, be it

RESOLVED, that pursuant to 6 NYCRR Part 617 et seq. of the Regulations of Article 8 of the Environmental Conservation Law of New York State (SEQRA), the Ulster County Legislature hereby adopts and issues the Negative Declaration under SEQRA for the Ashokan Rail Trail Project upon the vote thereupon and the signature of the Ulster County Legislature Chairman herewith; and, be it further

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Adopting and Issuing A Negative Declaration Under 6 NYCRR Part 617 State Environmental Quality Review Act (SEQRA) By The Ulster County Legislature For The Construction Of The Ashokan Rail Trail– Capital Project No. 459- Department Of Planning

RESOLVED, that Clerk of the Legislature shall file this Resolution and accompanying Negative Declaration with the Involved and Interested Agencies as enumerated in the Negative Declaration and publish the Resolution and Negative Declaration in the Environmental Notice Bulletin; and, be it further

RESOLVED, that the adoption of the Negative Declaration shall constitute the SEQRA Decision of approval for the construction of the Ashokan Rail Trail Project as therein defined to convert the U&D Railroad Corridor from Basin Road in West Hurley to Route 28A in Boiceville to a recreational trail only and all of the actions associated with such project, including the removal of railroad track and ties and the development of trailheads, together with all plans and documents associated therewith,

and move its adoption.

ADOPTED BY THE FOLLOWING VOTE:

AYES: 14 NOES: 7
(Noes: Legislators Donaldson, Fabiano, Greene, Lapp, J. Parete, R. Parete, and Wawro)
(Absent: Legislators Berky and Loughran)

No Action Taken in Committee: Public Works and Capital Projects on November 1, 2017

Passed Committee: Economic Development, Tourism, Housing, Planning and Transit on November 9, 2017

Passed Committee: Public Works and Capital Projects on November 14, 2017

FINANCIAL IMPACT:
NONE

Resolution No. 421 November 14, 2017

Adopting and Issuing A Negative Declaration Under 6 NYCRR Part 617 State Environmental Quality Review Act (SEQRA) By The Ulster County Legislature For The Construction Of The Ashokan Rail Trail– Capital Project No. 459- Department Of Planning

Legislator Greene motioned, seconded by Legislator Donaldson, to amend the sixth WHEREAS and third RESOLVED to add additional language as indicated in bold font:

WHEREAS, Ulster County has examined the proposed action consisting of the construction of the Ashokan Rail Trail along the Ashokan Trail Easement, including removing rail, ties and other track materials **(with the exception of all rail, ties and other track materials between Basin Road and MP 11.1, which shall not be removed)** and developing three trailhead areas, to create a public recreational trail and prepared the Environmental Record as now on file with the Clerk of the Legislature; and

RESOLVED, that the adoption of the Negative Declaration shall constitute the SEQRA Decision of approval for the construction of the Ashokan Rail Trail Project as therein defined to convert the U&D Railroad Corridor from Basin Road in West Hurley to Route 28A in Boiceville to a recreational trail only and all of the actions associated with such project, including the removal of railroad track and ties **(with the exception of all rail, ties and other track materials between Basin Road and MP 11.1, which shall not be removed)** and the development of trailheads, together with all plans and documents associated therewith,

MOTIONED DEFEATED BY THE FOLLOWING VOTE:

AYES: 7 NOES: 14
(Ayes: Legislators Donaldson, Fabiano, Greene, Lapp, J. Parete, R. Parete, and Wawro)
(Absent: Legislators Berky and Loughran)

Resolution No. 421 November 14, 2017

Adopting and Issuing A Negative Declaration Under 6 NYCRR Part 617 State Environmental Quality Review Act (SEQRA) By The Ulster County Legislature For The Construction Of The Ashokan Rail Trail– Capital Project No. 459- Department Of Planning

STATE OF NEW YORK
ss:
COUNTY OF ULSTER

I, the undersigned Clerk of the Legislature of the County of Ulster, hereby certify that the foregoing resolution is the original resolution adopted by the Ulster County Legislature on the 14th Day of November in the year Two Thousand and Seventeen, and said resolution shall remain on file in the office of said clerk.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the County of Ulster this 16th Day of November in the year Two Thousand and Seventeen.

Victoria A. Fabella, Clerk
Ulster County Legislature

Submitted to the County Executive this
16th Day of November, 2017.

Victoria A. Fabella, Clerk
Ulster County Legislature

Approved by the County Executive this
17th Day of November, 2017.

Michael P. Hein, County Executive

Ashokan Rail Trail Project

6 NYCRR PART 617.7
STATE ENVIRONMENTAL QUALITY REVIEW ACT
NEGATIVE DECLARATION
NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

SUPPORTING DOCUMENTATION:

- Ashokan Rail Trail- Full Environmental Assessment Form: Parts 1, 2 and 3
- Wetland Delineation Report (May 2017), which includes:
  - Wetland Study and Delineation, Mapping
  - Threatened and Endangered Species Habitat Assessment and Coordination Letters
- Traffic Impact Study (March 2017)
- No Adverse Impact Letter from NYS OPRHP (October 2016)
- Environmental Soil Sampling Program, Conclusions and Test Results (May 2017)
- Resolution No. 480- Establishing Ashokan Rail Trail Capital Project (December 15, 2015)
- Lead Agency Letters - Notice of Intent to Establish Lead Agency for Ashokan Rail Trail Construction (August 31, 2016)
- Resolution No. 327- Ashokan Trail Easement Authorization (August 15, 2017)
- Ashokan Trail Easement - SEQR Full Environmental Assessment Form: Parts 1, 2 and 3 and Determination/ Negative Declaration
- Engineering Assessments of Burying Track and Tie: Richard C. Semenick, P.E. (HDR) and Thomas C. Baird, P.E. (Barton & Loguidice)

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Ashokan Rail Trail		
Project Location (describe, and attach a general location map): Towns of Hurley and Olive, Ulster County		
Brief Description of Proposed Action (include purpose or need): Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.		
Name of Applicant/Sponsor: Ulster County, C/O Mr. Michael Hein, County Executive	Telephone: (845) 340-3800 E-Mail: exec@co.ulster.ny.us	
Address: 244 Fair Street, PO Box 1800		
City/PO: Kingston	State: NY	Zip Code: 12402
Project Contact (if not same as sponsor; give name and title/role): Mr. Christopher White, Ulster County Planning Dept., Deputy Director/Project Manager	Telephone: (845) 340-3338 E-Mail: cwhi@co.ulster.ny.us	
Address: 244 Fair Street, PO Box 1800		
City/PO: Kingston	State: NY	Zip Code: 12402
Property Owner (if not same as sponsor): New York City Department of Environmental Protection (County owns railroad easement)	Telephone: (845) 340-7218 E-Mail: CLaing@dep.nyc.gov	
Address: 71 Smith Avenue		
City/PO: Kingston	State: NY	Zip Code: 12401

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Council, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☐Yes ☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	Ulster County Legislature (SEQRA/ Funding)	
f. Regional agencies ☑Yes ☐No	NYCDEP (SWPPP - Design Approval)	
g. State agencies ☑Yes ☐No	NYSDEC (Wetland, Habitat, Endangered Species, Protect Water), NYSHPO (Arch & Historic)	
h. Federal agencies ☑Yes ☐No	US Army Corps of Engineers (Wetland jurisdiction)	

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

New York City Watershed Boundary - subject to NYC Watershed Rules and Regulations

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes ☐No

If Yes, identify the plan(s):

Ulster County Open Space Plan

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑Yes☐No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Conservation Residential and very low density residential

b. Is the use permitted or allowed by a special or conditional use permit? ☑Yes☐No

c. Is a zoning change requested as part of the proposed action? ☐Yes☑No
If Yes,
i. What is the proposed new zoning for the site? ______

C.4. Existing community services.

a. In what school district is the project site located? Onteora Central School District, Kingston City Schools

b. What police or other public protection forces serve the project site?
Olive Police Department, Ulster County Sheriff, NYS Police, NYC DEP Police

c. Which fire protection and emergency medical services serve the project site?
Olive Fire Department, Olive First Aid, Inc., Hurley Fire Department

d. What parks serve the project site?
None

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Recreational

b. a. Total acreage of the site of the proposed action? 56 acres
b. Total acreage to be physically disturbed? 42 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 56 acres

Calculated by length (11.5 miles) multiplied by 30 feet average width

c. Is the proposed action an expansion of an existing project or use? ☐Yes☑No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % ______ Units: ______

d. Is the proposed action a subdivision, or does it include a subdivision? ☐Yes☑No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐Yes☐No
iii. Number of lots proposed? ______
iv. Minimum and maximum proposed lot sizes? Minimum ______ Maximum ______

e. Will proposed action be constructed in multiple phases? ☑Yes☐No
i. If No, anticipated period of construction: ______ months
ii. If Yes:
- Total number of phases anticipated 2
- Anticipated commencement date of phase 1 (including demolition) 7 month 2017 year
- Anticipated completion date of final phase 11 month 2018 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:
Phasing of the project relates to constraints on access to the site and the difficulty of construction during winter months primarily due to access

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures ___________
ii. Dimensions (in feet) of largest proposed structure: ________height; ________width; and _______ length
iii. Approximate extent of building space to be heated or cooled: ______________________ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: ________________________________
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:
____
iii. If other than water, identify the type of impounded/contained liquids and their source.
____
iv. Approximate size of the proposed impoundment. Volume: ____________ million gallons; surface area: ____________ acres
v. Dimensions of the proposed dam or impounding structure: ________ height; _______ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i. What is the purpose of the excavation or dredging? ________________________________
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): ________________________________
- Over what duration of time? ________________________________

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
____
____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. ________________________________
____
v. What is the total area to be dredged or excavated? ______________________acres
vi. What is the maximum area to be worked at any one time? ______________________ acres
vii. What would be the maximum depth of excavation or dredging? ______________________ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: ________________________________
____
____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑Yes ☐No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): NYSDEC Freshwater Wetland AS- 19 and AS-20 as well as H-171-P 848-12, H-171-P 848-11, H-171-P 848-10, H-171-P 848-9 and unmapped stream resources

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
Wetland AS-20 and 1 unmapped wetland would have a minor linear impact as well as some adjacent area impacts. Culvert repair and proposed bridge work will require entry into waterways and temporary bank impacts. Note: The proposed trail alignment follows the existing built railroad corridor

iii. Will proposed action cause or result in disturbance to bottom sediments? ☑ Yes ☐ No
If Yes, describe: Major culvert repair and/or bridge reconstruction may cause temporary disturbance

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☑ No
If Yes:
- acres of aquatic vegetation proposed to be removed: ____________
- expected acreage of aquatic vegetation remaining after project completion: ____________
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): ____________
- proposed method of plant removal: ____________
- if chemical/herbicide treatment will be used, specify product(s): ____________

v. Describe any proposed reclamation/mitigation following disturbance:
The wetland will be restored to pre-construction conditions and losses mitigated. Enhancement and restoration will occur.

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☑ No
If Yes:
i. Total anticipated water usage/demand per day: ____________ gallons/day
ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No
If Yes:
- Name of district or service area: ____________
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:
- Describe extensions or capacity expansions proposed to serve this project: ____________
- Source(s) of supply for the district: ____________

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:
- Applicant/sponsor for new district: ____________
- Date application submitted or anticipated: ____________
- Proposed source(s) of supply for new district: ____________

v. If a public water supply will not be used, describe plans to provide water supply for the project: ____________

vi. If water supply will be from wells (public or private), maximum pumping capacity: ______ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No
If Yes:
i. Total anticipated liquid waste generation per day: ____________ gallons/day
ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): ____________

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☑ No
If Yes:
- Name of wastewater treatment plant to be used: ____________
- Name of district: ____________
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: ____________

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:
- Applicant/sponsor for new district: ____________
- Date application submitted or anticipated: ____________
- What is the receiving water for the wastewater discharge? ____________

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: ____________

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

500 Square feet or 0.01 acres (impervious surface)

2.4M Square feet or 56 acres (parcel size)

ii. Describe types of new point sources. the occasional swale will collect runoff in isolated locations and parking lots where it will be directed to sheet flow and infiltration locations

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

on-site infiltration practices

- If to surface waters, identify receiving water bodies or wetlands: ____________
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

Heavy equipment during construction phase only

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

N/A

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

N/A

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- ________Tons/year (short tons) of Carbon Dioxide (CO_2)
- ________Tons/year (short tons) of Nitrous Oxide (N_2O)
- ________Tons/year (short tons) of Perfluorocarbons (PFCs)
- ________Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- ________Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- ________Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): ______

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): ______

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

______

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐ Weekend ☐ Randomly between hours of ______ to ______.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: ______

iii. Parking spaces: Existing ______ Proposed ______ Net increase/decrease ______

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

______

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: ______

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): ______

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:
- Monday - Friday: 7am-5pm
- Saturday: ______
- Sunday: ______
- Holidays: ______

ii. During Operations:
- Monday - Friday: Dawn to Dusk
- Saturday: Dawn to Dusk
- Sunday: Dawn to Dusk
- Holidays: Dawn to Dusk

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Heavy equipment usage during hours of construction, M-F 7am-5pm.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: Some limited tree removal will be required to achieve appropriate trail width. However, the entire area is forested and will still have substantial natural barriers.

n.. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored ______

ii. Volume(s) ______ per unit time ______ (e.g., month, year)

iii. Generally describe proposed storage facilities: ______

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☑ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: ______ tons per ______ (unit of time)
- Operation : ______ tons per ______ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: ______
- Operation: ______

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: ______
- Operation: ______

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No If Yes: *i.* Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): ____ *ii.* Anticipated rate of disposal/processing: • ____ Tons/month, if transfer or other non-combustion/thermal treatment, or • ____ Tons/hour, if combustion or thermal treatment *iii.* If landfill, anticipated site life: ____ years
t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No If Yes: *i.* Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: ____ *ii.* Generally describe processes or activities involving hazardous wastes or constituents: ____ *iii.* Specify amount to be handled or generated ____ tons/month *iv.* Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: ____ *v.* Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No If Yes: provide name and location of facility: ____ If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: ____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): Drinking Water Supply; Recreational- Fishing and Hunting

ii. If mix of uses, generally describe:

Open space/ forested area with linear railroad corridor adjoining a NYC DEP reservoir and running parallel to State Route 28

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	0	0
• Forested	37	37	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	2	2	0
• Wetlands (freshwater or tidal)	1	0.5+	<0.5
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: Rail Corridor ballast area	16	16	0

c. Is the project site presently used by members of the community for public recreation? *i.* If Yes: explain: Hunting and Fishing - Requires NYCDEP Access Permit	☑ Yes ☐ No
d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? If Yes, *i.* Identify Facilities: DD's Daycare- 36 Bonnie Brae Lane, Shokan	☑ Yes ☐ No
e. Does the project site contain an existing dam? If Yes: *i.* Dimensions of the dam and impoundment: • Dam height: ____ feet • Dam length: ____ feet • Surface area: ____ acres • Volume impounded: ____ gallons OR acre-feet *ii.* Dam's existing hazard classification: ____ *iii.* Provide date and summarize results of last inspection:	☐ Yes ☑ No
f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? If Yes: *i.* Has the facility been formally closed? ☐ Yes ☐ No • If yes, cite sources/documentation: ____ *ii.* Describe the location of the project site relative to the boundaries of the solid waste management facility: *iii.* Describe any development constraints due to the prior solid waste activities: ____	☐ Yes ☑ No
g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? If Yes: *i.* Describe waste(s) handled and waste management activities, including approximate time when activities occurred: Note: Former railroad corridor. There is potential for coal ash and slag and uncharacterized fill on site. Testing will be completed to determine the extent, if any, is on site. It is not expected to a hazard. Existing railroad ties will removed from the corridor and disposed of properly	☑ Yes ☐ No
h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: *i.* Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No ☑ Yes – Spills Incidents database — Provide DEC ID number(s): Multiple, Hazardous Waste Report TBD ☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): ____ ☐ Neither database *ii.* If site has been subject of RCRA corrective activities, describe control measures: ____ *iii.* Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No If yes, provide DEC ID number(s): ____ *iv.* If yes to (i), (ii) or (iii) above, describe current status of site(s):	☑ Yes ☐ No

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: ______
- Describe the type of institutional control (e.g., deed restriction or easement): ______
- Describe any use limitations: ______
- Describe any engineering controls: ______
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: ______

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 6.5 feet

b. Are there bedrock outcroppings on the project site? ☑ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? 10 %

c. Predominant soil type(s) present on project site:

Oquaga-Arnot-Rock outcrop	29 %
Tunkhannock gravelly loam	17 %
Lackawanna and Swartswood	6 %

d. What is the average depth to the water table on the project site? Average: 6.5 feet

e. Drainage status of project site soils:
- ☑ Well Drained: 82 % of site
- ☑ Moderately Well Drained: 10.4 % of site
- ☑ Poorly Drained 7.6 % of site

f. Approximate proportion of proposed action site with slopes:
- ☑ 0-10%: 30 % of site
- ☑ 10-15%: 40 % of site
- ☑ 15% or greater: 30 % of site

Note: Trail Gradient <= 5 %

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: ______

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 862: 555, 549, 551, 543, 523 Classification A(TS), A(T), AA(T), C(TS)
- Lakes or Ponds: Name ______ Classification ______
- Wetlands: Name Federal and State Approximate Size 100+
- Wetland No. (if regulated by DEC) AS-19. AS-20

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑ Yes ☐ No

If yes, name of impaired water body/bodies and basis for listing as impaired:
Ashokan Reservoir, Esopus Creek - Metals (silt/sediment),

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500 year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:
i. Name of aquifer: Principal Aquifer

m. Identify the predominant wildlife species that occupy or use the project site:

white tailed deer	turkey	black bear
eastern chipmunk	eastern gray squirrel	coyote

n. Does the project site contain a designated significant natural community? ☑ Yes ☐ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): Vernal pool

ii. Source(s) of description or evaluation: Site Investigations, NYC DEP

iii. Extent of community/habitat:

- Currently: .75 acres
- Following completion of project as proposed: .75 acres
- Gain or loss (indicate + or -): 0 acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

Indiana bat (endangered), Northern long-eared bat (threatened), bog turtle (threatened), bald eagle (NYS threatened),

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☑ Yes ☐ No

Sharp-shinned hawk, osprey, red-shouldered hawk, American bittern, whip-poor-will, common nighthawk

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☑ Yes ☐ No

If yes, give a brief description of how the proposed action may affect that use:

Access to designated fishing and hunting areas will be improved and marked with signage to ensure only continued use by special permit.

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: ______

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? ______

ii. Source(s) of soil rating(s): ______

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: ______

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No

If Yes:

i. CEA name: ______

ii. Basis for designation: ______

iii. Designating agency and date: ______

e. Does the project site contain, or is it substantially contiguous to, a building, 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? If Yes: *i.* Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District *ii.* Name: ______ *iii.* Brief description of attributes on which listing is based: ______	☐ Yes ☑ No
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑ Yes ☐ No
g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: *i.* Describe possible resource(s): ______ *ii.* Basis for identification: ______	☐ Yes ☑ No
h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: *i.* Identify resource: NYS Route 28 Scenic Byway, Ashokan Reservoir *ii.* Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Rt. 28 Scenic byway - Ashokan Reservoir overlooks and trail *iii.* Distance between project and resource: <0.5 miles.	☑ Yes ☐ No
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: *i.* Identify the name of the river and its designation: ______	☐ Yes ☑ No
ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name County of Ulster Date August 31, 2016

Signature ______ Title Deputy Director of Planning/ Project Manager

PRINT FORM

	Agency Use Only [If applicable]
Project :	
Date :	

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes**" to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No**" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1) ☐ NO ☑ YES
If "Yes", answer questions a - j. If "No", move on to Section 2.

	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☑	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☑	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☑	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☑	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☑	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☑	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☑	☐
h. Other impacts: ______________________________		☐	☐

2. Impact on Geological Features The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) *If "Yes", answer questions a - c. If "No", move on to Section 3.*	☑ NO		☐ YES
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. Identify the specific land form(s) attached: ___________________________________ ____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: ____	E3c	☐	☐
c. Other impacts: ____ ____		☐	☐

3. Impacts on Surface Water The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) *If "Yes", answer questions a - l. If "No", move on to Section 4.*	☐ NO		☑ YES
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may create a new water body.	D2b, D1h	☑	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☑	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☑	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☑	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☑	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☑	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☑	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☑	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☑	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☑	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☑	☐

l. Other impacts: ______________________________		☐	☐

4. Impact on groundwater
The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t) ☑ NO ☐ YES
If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: ______________________________	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: ______________________________		☐	☐

5. Impact on Flooding
The proposed action may result in development on lands subject to flooding. (See Part 1. E.2) ☐ NO ☑ YES
If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☑	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☑	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☑	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☑	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☑	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☑	☐

g. Other impacts: ____		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. ☑ NO ☐ YES
(See Part 1. D.2.f., D,2,h, D.2.g)
If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: ____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☐ NO ☑ YES
If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☑	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☑	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☑	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☑	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☑	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: ____________	E2n	☑	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☑	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: ____________ ____________	E1b	☑	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☑	☐
j. Other impacts: ____________ ____________		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: ____________		☐	☐

9. Impact on Aesthetic Resources The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.) *If "Yes", answer questions a - g. If "No", go to Section 10.*	☑ NO	☐ YES	
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: ____ ____		☐	☐

10. Impact on Historic and Archeological Resources The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.) *If "Yes", answer questions a - e. If "No", go to Section 11.*	☐ NO	☑ YES	
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may 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.	E3e	☑	☐
b. The proposed action may occur 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.	E3f	☑	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: ____	E3g	☑	☐

d. Other impacts: ______________________________		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: ______________________________		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: ______________________________		☐	☐

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☐ NO ☑ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☑	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☑	☐
c. The proposed action will degrade existing transit access.	D2j	☑	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☑	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☑	☐
f. Other impacts: ______________________		☑	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: ______________________		☐	☐

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: ____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☐ NO ☑ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☑	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☑	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☑	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☑	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☑	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☑	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☑	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☑	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☑	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☑	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☑	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☑	☐
m. Other impacts: ____		☐	☐

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. ☑ NO ☐ YES

(See Part 1. C.1, C.2. and C.3.)

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: ______________________________		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. ☑ NO ☐ YES

(See Part 1. C.2, C.3, D.2, E.3)

If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: ______________________________		☐	☐

PRINT FULL FORM

Agency Use Only [IfApplicable]

Project :	
Date :	

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Ulster County Legislature as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Ashokan Rail Trail

Name of Lead Agency: Ulster County Legislature

Name of Responsible Officer in Lead Agency: Kenneth J. Ronk, Jr.

Title of Responsible Officer: Ulster County Legislature Chairman

Signature of Responsible Officer in Lead Agency: Date: 11-17-17

Signature of Preparer (if different from Responsible Officer) Date: 10-25-2017

For Further Information:

Contact Person: Mr. Dennis Doyle, Director Ulster County Planning Department

Address: 244 Fair Street, PO Box 1800, Kingston NY 12401

Telephone Number: 845 340-3338

E-mail: ddoy@co.ulster.ny.us

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

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Ashokan Rail Trail
Towns of Hurley and Olive
Ulster County, New York

Wetland Delineation Report

May 2017

Barton & Loguidice

Ashokan Rail Trail
Towns of Hurley and Olive
Ulster County, New York

Wetland Delineation Report

May 2017

Ashokan Rail Trail

Towns of Hurley and Olive
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Wetland Delineation Report

May 2017

Prepared For:

Ulster County Planning Department
244 Fair Street
Kingston, New York 12401

Prepared By:

Barton & Loguidice, D.P.C.
10 Airline Drive
Albany, NY 12205

Table of Contents

Section Page

Table of Contents – Continued

1.0 Introduction

This report describes the wetland resources located along portions of the proposed Ashokan Rail Trail located in the Towns of Olive and Hurley, Ulster County, New York. Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail which will run from Basin Road in the Town of Hurley to Route 28A in the Town of Olive. The proposed action includes the creation of a recreational trail corridor on a former Ulster & Delaware (U&D) rail line, north of the Ashokan Reservoir on an Ulster County-owned corridor. The project is located within New York City Watershed Lands, which are regulated by the New York City Department of Environmental Protection (NYCDEP). The project includes repurposing the existing ballast, removal of rail and ties, creation of trailheads, installation of two pedestrian bridges and maintenance to/replacement of existing culvert structures. The limits of survey along the corridor, identified as the Project Corridor, were approximately 20 feet from the center of the railway in the Ulster County Right of Way (ROW).

A wetland and stream delineation was conducted by Barton & Loguidice, D.P.C. (B&L) throughout the Project Corridor (see Figures 1 and 2) on June 28 and 29, 2016 and July 7, 2016, in accordance with the Routine Delineation Method set forth in the *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Version 2.0* (U.S. Army Corps of Engineers [USACE], 2011). These methods were used to identify wetland and water resources within the Project Corridor.

This report summarizes agency resource information obtained for the Project Corridor, details the methods used to identify and delineate the field observed resources, and presents the results of the field wetland boundary delineation. Wetland delineation field data sheets and photographs of the wetland resources located within and adjacent to the Project Corridor are included as Appendices A and B of this report, respectively.

2.0 Site Description

2.1 Location

Located in the Ulster County Towns of Hurley and Olive, the Ashokan Rail Trail will re-purpose an abandoned railway owned by Ulster County within the Catskill Park. This abandoned railroad travels north of, and parallel to, the NYCDEP-regulated Ashokan Reservoir. Portions of the eastern section of railway were recently used by the Catskill Mountain Railway as a tourist attraction. This use ceased in May 2016. The remainder of the U&D railroad has been neglected for many years.

2.2 Site Use

Areas immediately adjacent to the Project Corridor consist primarily of residential and commercial properties to the north developed along NYS Route 28. To the south of the Corridor, the Ashokan Reservoir serves as a drinking water source for New York City and is recreationally limited to fishing and non-motorized boat use. The Project Corridor travels through mature and mid-successional forests, primarily deciduous, and crosses the Esopus Creek at the western end of the proposed trail.

3.0 Agency Resource Information

Prior to undertaking the field wetland delineation, a desktop information search was completed to review the site topography, mapped soils, and mapped wetlands associated with the Project Corridor. This desktop review included the U.S. Geological Survey's (USGS) topographic mapping, soils information from the Natural Resources Conservation Service's (NRCS) Soil Survey Geographic (SSURGO) Database and Web Soil Survey, the National Wetland Inventory (NWI) mapping, and the New York State Department of Environmental Conservation's (NYSDEC) freshwater wetland mapping.

3.1 Topographic Mapping

The Project Corridor is included on the USGS' 7.5-minute Ashokan, Bearsville, Kingston West, Phoenicia, and West Shokan quadrangle maps (Figure 2). Descriptions of the topographic features noted along the Project Corridor within each of these quadrangles are included below.

Ashokan: The northern quarter of the map portrays an elevation ranging from 600 feet above mean sea level (amsl) to approximately 660 feet amsl. The landscape to the north is steeply sloped with a peak of over 2,200 feet amsl adjacent to the "Little Tonshi Mountain" label. To the south of the Project Corridor, the elevation levels out to less than 600 feet amsl at the Ashokan Reservoir. On the other side of the Reservoir (further south), the landscape is undulating with peaks around 800 to 1000 feet amsl.

Bearsville: The southwest corner of the quadrangle was reviewed for a small portion of the Project Corridor. Topographic elevations are consistent with the Ashokan quadrangle.

Kingston West: Showing the eastern most section of the Project Corridor, the topography remains consistent with the same average elevation. To the east of the Project Corridor's eastern terminus, the undulating hills continue with peaks around 700 feet amsl. The Project Corridor's elevations flatten and drop to the southeast, at the Esopus Creek, to around 160 feet amsl.

Phoenicia: The southwest corner of the map was reviewed for the western terminus of the Project Corridor. A benchmark directly adjacent to the intersection of the railway and NYS Route 28A was labelled 651 feet amsl. Lands north and west of the Project Corridor are steeply mountainous, with elevations rising to above 3,500 feet amsl in the Catskill State Park.

West Shokan: The map shows the Project Corridor immediately east of the western end of the Ashokan Reservoir. There is a fairly steep bank between this section of the railway and NYS Route 28, and the alignment shifts from east-west to north-south. Elevation ranges are consistent with those observed from the Ashokan Quadrangle.

3.2 Soils Information

The NRCS' SSURGO Database and Web Soil Survey (WSS) (USDA, 2016) were reviewed to determine the types and characteristics of soils mapped within the limits of the Project Corridor to preliminarily evaluate the presence of hydric soils, one of the required criteria for federally regulated wetlands. Figure 3 displays the soil types mapped within the Project Corridor. Table 1, below, lists the soil symbol, mapping unit name, taxonomic classification, hydric classification and rating, drainage classification, and typical Munsell soil colors information that characterize each soil type mapped along the Project Corridor. As shown in Table 1, four of the soils mapped within the Project Corridor are defined as hydric soils since the WSS indicates they have hydric ratings greater than 50%. The four hydric soil units (Alluvial Land (AA), Atherton silt loam (At), Canandaigua silt loam (Cc), and Menlo silt loam (Mn)) are bolded in Table 1, below.

Table 1. NRCS Mapped Soils Data						
Map Unit Name	**Soil Symbol**	**Taxonomic Class**	**Drainage Class**	**Hydric Rating (%)**	**Typical Munsell Soil Horizon Colors**	**Typical Munsell Redoxymorphic Feature Colors**
Alluvial land	**AA**	**Fluvaquents**	**Poorly drained**	**65**	**N/A**	**N/A**
Arnot channery silt loam, 0 to 8 percent slopes	AcB	Lithic Dystrochrepts	Somewhat excessively drained	0	0-6": 10YR 4/2 6-13": 10YR 5/4 13-17": 2.5Y 5/4 17-27": "Gray"	-
Arnot-Oquaga-Rock outcrop complex, very steep	ARF	Lithic Dystrochrepts	Somewhat excessively drained	0	0-6": 10YR 4/2 6-13": 10YR 5/4 13-17": 2.5Y 5/4 17-27": "Gray"	-
Atherton silt loam	**At**	**Aeric Haploquepts**	**Poorly drained**	**90**	**0-9": 10YR 3/1, 9-22": 5Y 5/1**	**0-9": 2.5YR 3/6, 9-22": 2.5Y 5/4**
Canandaigua silt loam	**Cc**	**Mollic Haplaquepts**	**Very poorly drained**	**95**	**0-8": 10YR 3/1 8-12": 10YR 6/2 12-19": 10YR 6/1 19-30": 10YR 6/2**	**8-12": 10YR 5/6, 7.5YR 5/6 12-19": 10YR 7/2, 7.5YR 5/6 19-30": 7.5YR 6/4, 7.5YR 5/6**
Castile gravelly silt loam, 0 to 3 percent slopes	CgA	Aquic Dystrochrepts	Moderately well drained	0	0-13": 10YR 4/2 13-18": 10YR 5/4 18-24": 10YR 5/3	18-24": 10YR 5/1
Castile gravelly silt loam, 3 to 8 percent slopes	CgB	Aquic Dystrochrepts	Moderately well drained	0	0-13": 10YR 4/2 13-18": 10YR 5/4 18-24": 10YR 5/3	18-24": 10YR 5/1
Gravel pit	GP	-	Somewhat excessively drained	5	-	-
Haven loam	He	Typic Dystrochrepts	Well drained	0	0-2": Decomp 2-3": 5YR 2/1 3-6": 10YR 4/2 6-13": 7.5YR 4/4 13-22": 7.5YR 5/6	-
Hoosic gravelly loam, rolling	HgC	Typic Dystrochrepts	Somewhat excessively drained	0	0-6": 10YR 4/2 6-11": 10YR 5/6 11-22": 10YR 5/6	-
Hoosic gravelly loam, 15 to 25 percent slopes	HgD	Typic Dystrochrepts	Somewhat excessively drained	0	0-6": 10YR 4/2 6-11": 10YR 5/6 11-22": 10YR 5/6	-
Hoosic soils, very steep	HSF	Typic Dystrochrepts	Somewhat excessively drained	0	0-6": 10YR 4/2 6-11": 10YR 5/6 11-22": 10YR 5/6	-
Lackawanna flaggy silt loam, 8 to 15 percent slopes	LaC	Typic Fragiudepts	Well drained	0	0-8": 5YR 3/4 8-13": 5YR 4/4 13-26": 2.5YR 4/4	-
Lackawanna and Swartswood soils, moderately steep, very bouldery	LCD	Typic Fragiudepts	Well drained	0	0-8": 5YR 3/4 8-13": 5YR 4/4 13-26": 2.5YR 4/4	-
Lackawanna and Swartswood soils, very steep, very bouldery	LCF	Typic Fragiudepts	Well drained	0	0-8": 5YR 3/4 8-13": 5YR 4/4 13-26": 2.5YR 4/4	-
Lordstown-Arnot-Rock outcrop complex, sloping	LOC	-	-	0	-	-

Table 1. NRCS Mapped Soils Data						
Map Unit Name	**Soil Symbol**	**Taxonomic Class**	**Drainage Class**	**Hydric Rating (%)**	**Typical Munsell Soil Horizon Colors**	**Typical Munsell Redoxymorphic Feature Colors**
Made land	ML	Udorthents	Somewhat excessively drained	5	-	-
Menlo silt loam	**Mn**	**Histic Humaquepts**	**Very poorly drained**	**100**	**0-5": 10YR 2/1 5-16": 10YR 2/1 16-22": 7.5YR 5/1**	**5-16": 7.5YR 4/6 16-22": 7.5YR 4/6. 10YR 5/6**
Morris-Tuller complex, gently sloping, very bouldery	MTB	Aeric Fragiaquepts	Somewhat poorly drained	20	0-8": 5YR 4/2 8-10": 7.5YR 4/4 10-14": 5YR 5/2 14-50": 2.5YR 4/4	10-14": 5YR 4/4, N 5/0 14-50": N 6/0, 7.5YR 5/6, N 5/0
Oquaga channery silt loam, 3 to 8 percent slopes	OgB	Typic Dystrochrepts	Well drained	0	0-4": 5YR 3/3 4-11": 2.5YR 3/6 11-28": 2.5YR 4/4	-
Oquaga and Lordstown channery silt loams, 8 to 15 percent slopes	OlC	Typic Dystrochrepts	Well drained	0	0-4": 5YR 3/3 4-11": 2.5YR 3/6 11-28": 2.5YR 4/4	-
Oquaga-Arnot-Rock outcrop complex, sloping	ORC	Typic Dystrochrepts	Well drained	0	0-4": 5YR 3/3 4-11": 2.5YR 3/6 11-28": 2.5YR 4/4	-
Oquaga-Arnot-Rock outcrop complex, moderately steep	ORD	Typic Dystrochrepts	Well drained	0	0-4": 5YR 3/3 4-11": 2.5YR 3/6 11-28": 2.5YR 4/4	-
Plainfield-Riverhead complex, very steep	PmF	Typic Udipsamments	Excessively drained	0	0-7": 10YR 3/3 7-16": 7.5YR 4/4 16-28": 7.5YR 5/6	-
Quarry	QU	-	-	5	-	-
Red Hook gravelly silt loam	Re	Aeric Haploquepts	Somewhat poorly drained	5	0-6": 10YR 3/2 6-8": 10YR 4/3 8-13": 10YR 5/3 13-22" 10YR 5/2	6-8": 10YR 5/2 8-13": 10YR 5/2, 4/4 13-22": 7.5YR 4/4, 10YR 5/6
Schoharie silt loam, 3 to 8 percent slopes	SaB	Typic Hapludalfs	Moderately well drained	0	0-8": 7.5YR 3/2 8-11": 10YR 6/3 11-18": 5YR 5/4 18-33":2.5YR 4/4	18-33": 5YR 5/6
Scriba and Morris soils, 0 to 8 percent slopes	SdB	Aeric Fragiaquepts	Somewhat poorly drained	5	0-9": 10YR 3/2 9-13": 10YR 5/2 13-30": 7.5 YR 5/4	9-13": 10YR 5/6, 7.5YR 5/6, 10YR 6/1 13-30": 10YR 4/4, 7.5 YR 5/6, 7.5YR 6/2
Scriba and Morris soils, gently sloping, very bouldery	SEB	Aeric Fragiaquepts	Somewhat poorly drained	5	0-9": 10YR 3/2 9-13": 10YR 5/2 13-30": 7.5 YR 5/4	9-13": 10YR 5/6, 7.5YR 5/6, 10YR 6/1 13-30": 10YR 4/4, 7.5 YR 5/6, 7.5YR 6/2
Suncook loamy fine sand	Su	Typic Udipsamments	Excessively drained	0	0-7": 10YR 3/2 7-14": 10YR 4/2 14-22": 10YR 3/3	-
Tunkhannock gravelly loam, 0 to 3 percent slopes	TkA	Typic Dystrochrepts	Well drained	0	0-8": 10YR 4/3 8-16": 7.5YR 16-26": 5YR 4/4	-

Table 1. NRCS Mapped Soils Data

Map Unit Name	Soil Symbol	Taxonomic Class	Drainage Class	Hydric Rating (%)	Typical Munsell Soil Horizon Colors	Typical Munsell Redoxymorphic Feature Colors
Tunkhannock gravelly loam, 3 to 8 percent slopes	TkB	Typic Dystrochrepts	Well drained	0	0-8": 10YR 4/3 8-16": 7.5YR 16-26": 5YR 4/4	-
Tunkhannock gravelly loam, rolling	TkC	Typic Dystrochrepts	Well drained	0	0-8": 10YR 4/3 8-16": 7.5YR 16-26": 5YR 4/4	-
Valois very bouldery soils, gently sloping	VAB	Typic Dystrochrepts	Well drained	0	0-7": 10YR 4/3 7-30": 7.5YR 5/6	-
Valois very bouldery soils, moderately steep	VAD	Typic Dystrochrepts	Well drained	0	0-7": 10YR 4/3 7-30": 7.5YR 5/7	-
Wellsboro and Wurtsboro soils, gently sloping, very bouldery	WLB	Typic Fragiochrepts	Moderately well drained	0	0-8": 5YR 4/2 8-18": 5YR 4/4 18-24": 7.5YR 5/4	18-24": 5YR 5/8, 10YR 6/1, 5YR 6/3

3.3 New York State Department of Environmental Conservation Freshwater Wetlands Mapping

Desktop reviews of NYSDEC's freshwater wetland mapping resources (NYSDEC, 2016) were completed prior to a field inspection of the Project Corridor. As shown on Figure 4, several NYSDEC wetland polygons are mapped adjacent to or within the Corridor. NYSDEC regulated Wetland AS-20 is mapped approximately 100-260 feet to the south of the Project Corridor for the majority of its proposed length. A separate polygon, also part of Wetland AS-20, is located just east of Reservoir Road, and is bisected by the proposed Project Corridor. Wetland AS-20 is a Class 1 state-regulated wetland, which is listed as 139 acres in size. Wetland AS-19, a Class 2 wetland of 25.2 mapped acres, is shown immediately north of and overlapping the railway. No other NYSDEC wetlands were mapped within or adjacent to the Corridor.

3.4 National Wetland Inventory Mapping

Multiple wetland polygons were mapped by the U.S. Fish and Wildlife Services' (USFWS) National Wetland Inventory (NWI) along the Project Corridor (Figure 4). Table 2, below, summarizes the characteristics of these NWI mapped wetlands.

Table 2. NWI Mapped Wetlands

Classification Code	Wetland Type	Total Mapped Size (Acres)	Distance and Direction from Corridor
PUBH	Palustrine, unconsolidated bottom, permanently flooded (pond)	2.55	20' south of railway in Hurley, west of Basin Road
PEM1E	Palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded /saturated	1.34	Crosses railway; corresponds to NYSDEC Wetland AS-20 to north.
PFO1E	Palustrine, forested, broad-leaved deciduous, seasonally flooded /saturated	0.88	Crosses railway; corresponds to NYSDEC Wetland AS-20 to south.
PSS1/EM1C	Palustrine, scrub-shrub, broad-leaved deciduous/ emergent, persistent, seasonally flooded	2.11	Overlaps railway; corresponds to NYSDEC Wetland AS-19
PUBHh	Palustrine, unconsolidated bottom, permanently flooded, diked/impounded (pond)	1.7	60' north of railway, western end near Esopus inlet. (Causeway)
PUBHh	Palustrine, unconsolidated bottom, permanently flooded, diked/impounded (pond)	18.63	60' north of railway, western end near Esopus inlet. (Causeway)
PFO1C	Palustrine, forested, broad-leaved deciduous, seasonally flooded	5.65	Passes through Corridor along northern bank of Esopus Creek.

3.5 Surface Water Resources

The Project Corridor is located within the Lower Hudson Drainage Basin, recognized under Title 6, Chapter 10, Article 10, Part 862 in the New York Codes, Rules, and Regulations (NYCRR). NYSDEC stream mapping indicates that eight streams cross the Project Corridor. Table 3, below, provides the project assigned stream crossing identification number, the watercourse name, the NYSDEC Water Index Number, and the water quality classification/standard for the stream resource.

Stream resources mapped within the Project Corridor are shown on Figure 5. Surface water resources mapped within the Project Corridor drain into the Ashokan Reservoir (Waters Index Number H-171-P 848). This waterbody is designated as a Class AA water with AA(T) Standards, and supplies the City of New York by way of the Catskill Aqueduct to the Kensico Reservoir for distribution.

Table 3. NYSDEC Mapped Stream Resources

Watercourse Name	NYSDEC Waters Index Number	Water Quality (Class, Standard)
Esopus Creek	H-171	A,A(TS)
Tributary 8 of the Ashokan Reservoir	H-171-P 848-8	A,A(T)
Butternut Creek (Trib. 9 of Ashokan Reservoir)	H-171-P 848-9	A,A(T)
Tributary 9a of the Ashokan Reservoir	H-171-P 848-9a	A,A(T)
Tributary 1 of Butternut Creek	H-171-P 848-9-1	A,A(T)
Tributary 10 of the Ashokan Reservoir	H-171-P 848-10	A,A(T)
Tributary 11 of the Ashokan Reservoir	H-171-P 848-11	A,A(T)
Tributary 12 of the Ashokan Reservoir	H-171-P 848-12	A,A

3.6 Results of Background Information Review

A review of the background information conducted prior to the wetland field delineation indicated the potential for federal and state wetlands to be located within or adjacent to the Project Corridor based on the presence of mapped wetlands and prevalence of hydric soil. A field-based wetland identification and delineation was conducted to confirm these preliminary findings and identify the boundaries of wetland and surface water resources within the Project Corridor.

4.0 Site Ecology

4.1 General Cover Types

This section presents a summary of ecological information that is publicly available for the Project Corridor. The Project Corridor is located within mature and mid-successional forests with some scrub shrub patches interspersed throughout.

4.2 Ecological Zone

The proposed Project Corridor is located within the Appalachian Plateau Major Ecological Zone (Zone A) and the Neversink Highlands Minor Zone (NYSDEC, 2008). Characteristics of these ecological zones are provided in Table 4, below.

Table 4. Characteristics of the Ecological Zones

Feature	Appalachian Plateau / Neversink Highlands
Topography	Typical plateau structure with horizontal rock formations
Elevation	Well over 1,000 feet in most of the zone. / Most of the Highlands are above 1,200 feet. Relief is low in relation to sub-zones to the north.
Soils	Over most of the Plateau the soils are generally medium textured, acid, usually with fragipans, developed on glacial till and tend to be shallow and moderately well or poorly drained. The valley soils brought in by the glaciers are more fertile.
Vegetation	This zone is situated in the oak-northern hardwood and the northern hardwood natural vegetation zones. / The forests consist of northern hardwoods with substantial amounts of black cherry and ash. Hemlock and white pine are found in the ravines.
Land Use	The Highlands is the site of the numerous, famous Catskill resorts. Farming contributes to the economy, with a fairly recent shift from dairy to poultry farms taking place.
Mean Summer Temperature	65 to 70 degrees Fahrenheit
Mean Winter Temperature	20 to 25 degrees Fahrenheit
Mean Annual Snowfall	40 to 60 inches (60 to 85 inches in northern portions)
Growing Season	100-160 days

4.3 Wetland Cover Types

General wetland types identified within the Project Corridor are of the palustrine and lacustrine systems (Cowardin, 1979). The palustrine wetlands are dominated by emergent (PEM) and/or forested (PFO) classes. The lacustrine wetlands demonstrated a littoral subsystem and met criteria for an emergent wetland class. The Ashokan Reservoir is classified as a lacustrine system with a limnetic subsystem and a permanently flooded class. Brief descriptions of the two dominant wetland cover types noted within the Project Corridor are presented below, as most of the wetlands delineated within the Corridor are classified as such:

Emergent: Erect, rooted, herbaceous hydrophytic plants characterize emergent wetlands. This vegetation can be observed throughout most of the growing season. These wetlands typically have standing water above the soil surface for a portion of the year and often include fringe communities on open water edges.

Forested: Forested wetlands are dominated by woody vegetation with a diameter at breast height (DBH) greater than 3-inches and where soil is at least periodically saturated or inundated. Forested wetlands within the Project Corridor commonly included deciduous trees with an understory of hydrophytic herbaceous vegetation. The density of the understory varies by location and forest type.

5.0 Wetland Delineation Methodology

The background desktop data described in Section 3.0 was reviewed prior to undertaking the wetland field delineation. The *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Northeast/Northcentral Regional Supplement to the 1987 Corps of Engineers' Manual Version 2.0* (USACE, 2011) were followed during the 2016 wetland identification and delineation effort to identify wetlands located within the Project Corridor that are subject to federal jurisdiction by the USACE. B&L performed data collection and delineation of wetland boundaries on June 28-29 and July 7, 2016. Observations of vegetative communities, soils, and hydrological characteristics were documented and used to determine the extent of wetland boundaries in the field.

The first step of the wetland field delineation was to determine whether normal conditions were present at each identified wetland location. Each site was then examined for evidence of natural or human induced alteration of vegetation, soils, or hydrology. These investigations were followed by analyzing the surrounding area and determining the location of the wetland/upland interface. Selected points were sampled for vegetation, hydrology, and soil characteristics to determine the location of this boundary. The following sub-sections describe the *2012 Northeast/Northcentral Regional Supplement Version 2.0* (USACE, 2011) delineation methodology, which was followed during the June/July 2016 field delineation effort.

5.1 Vegetation

The presence of wetland vegetation was determined by evaluating the indicator status of dominant plant species in each vegetative stratum (i.e., herbaceous layer, shrub/sapling layer, tree layer, and woody vine layer). Dominant plant species were determined using percent aerial coverage estimates. Plant identification was made using plant keys such as *Newcomb's Wildflower Guide* (Newcomb, 1977). The plant species that immediately exceeded 50% of the total percent cover for a given stratum (when ranked in descending order of abundance and cumulatively totaled), plus any additional species comprising 20% or more of the total cover for that stratum (called the 50/20 rule), were considered to be the dominant vegetative species for the data plot.

The wetland indicator status (obligate - OBL, facultative wetland - FACW, facultative - FAC, facultative upland - FACU, or upland - UPL) for dominant plant species identified in the sample plots were determined from *The Northcentral and Northeast, Regional Wetland Plant List* (Lichvar, et al., 2016).

The Routine Method outlined in the USACE's Regional Supplement requires a sequence of four tests to establish the presence or absence of a dominance of hydrophytic vegetation. The four tests are done in a sequence on an if/then logic test basis. Proceeding to the next indicator level should only be completed if the preceding indicator did not determine a dominance of hydrophytic vegetation at the sampling location. Indicator one is the rapid test for hydrophytic vegetation. This indicator is applied if all dominant species across all vegetation strata are rated OBL or FACW.

Indicator two is the dominance test. Vegetation is considered to be hydrophytic if more than 50% of the dominant plant species across all strata are rated OBL, FACW, or FAC. The dominance test and rapid test use the 50/20 rule to determine the dominant species within a vegetative plot.

The third indicator of hydrophytic vegetation is linked to the prevalence index. The prevalence index is a weighted-average of wetland indicator statuses of all plant species in the sampling plot. The wetland indicator status of each species is assigned a value according to the following scale: OBL-1, FACW-2, FAC-3, FACU-4, and UPL-5. These assigned values are multiplied by the absolute percent cover of all species with that particular indicator status. The product of each indicator value is then summed and divided by the total percent cover, resulting in the prevalence index for that vegetation plot. The equation is as follows:

$$\text{Prevalence Index} = \frac{A_{OBL}+2*A_{FACW}+3*A_{FAC}+4*A_{FACU}+5*A_{UPL}}{A_{OBL}+A_{FACW}+A_{FAC}+A_{FACU}+A_{UPL}}$$

where A_X is the absolute percent cover

In order for a sample area to contain hydrophytic vegetation, the plot must have a prevalence index of 3 or less.

Indicator four consists of morphological adaptations. Certain plant species exhibit morphological changes in order to survive in areas that are saturated or flooded for prolonged periods of time. Some common vegetative morphological adaptations in the northeast consist of adventitious roots, hypertrophic lenticels, multi-stemmed trunks, and shallow root systems.

Plant community data recorded from each sample plot are included on the wetland delineation field data sheets provided as Appendix A.

5.2 Hydrology

The presence of primary hydrologic indicators (such as surface inundation (indicator A1), a high water table (indicator A2), soil saturation (indicator A3), or secondary hydrologic indicators (such as drainage patterns (indicator B10) or geomorphic position (indicator D2) was determined through visual observations at the data plot locations, the immediately surrounding areas, and within the soil profile. Soil saturation was determined by sampling the soils at each plot to a minimum depth of 20-inches, if possible. The depth of water was observed within boreholes. Hydrologic data gathered in the field at each sample plot is included on the wetland delineation field data sheets provided as Appendix A.

5.3 Soils

The presence of hydric soil indicators was determined by extracting soil samples with a soil auger up to a minimal depth of 12-inches, if possible. A Munsell Soil Color Chart (2009 Edition) was used to determine soil color for observed horizons within the soil profile, including different layers within the same horizon, if observed. Soil profiles were compared to hydric soil indicators for the USDA Subregion Land Resource Region (LRR R) – Northeastern Forests, included within the Northcentral and Northeast Regional Supplement (USACE, 2011). Soil characteristics and other observations made at each sample plot are included on the wetland delineation field data sheets provided as Appendix A.

5.4 Mapping

A wetland determination was made at each sample plot after characterizing the vegetation, hydrologic indicators, and soil. If the hydrophytic vegetation, hydrology, and hydric soil criteria were met, the area was determined to be a wetland. If the criterion for one or more of the three-wetland indicators was not met, the area was determined to not be a wetland, unless unusual circumstances were observed at the data plot location.

The boundaries of each wetland location were surveyed in the field using a handheld Global Positioning System (GPS), Trimble GeoXH model (Trimble Navigation Limited, Sunnyvale, CA). This GPS model is capable of sub-foot accuracy and was used to gather each point location and map each wetland boundary along the proposed trail route. The wetland boundaries were later added to the geographic information system (GIS) base mapping for the project.

6.0 Results

6.1 Delineated Wetlands

Vegetative, soil, and hydrologic characteristics of each delineated wetland can be viewed on the corresponding field data sheets in Appendix A. The field collected information for each delineated wetland has also been summarized below. Sixteen wetland resources were identified and delineated in the field. The boundary of many of these wetlands was only partially delineated due to the continuation of the wetland limits outside of the Project Corridor. Locations where the wetland continues outside of the project limits (labelled "open") are identified on the Wetland Delineation Figures, 6A through 6J.

Wetland A (Figure 6A) is classified as a palustrine emergent (PEM) wetland and is located approximately 20 feet south of the railway. At the Wetland A data plot, broom sedge (*Carex scoparia*), shallow sedge (*Carex lurida*), and pinkweed (*Persicaria pensylvanica*) were the dominant plant species observed. A dominance of hydrophytic vegetation was indicated within Wetland A based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland A consisted of high water table (A2), saturation (A3) at the soil surface, geomorphic position (D2), and the FAC-neutral test (D5). The observed hydric soil indicator within the wetland soil data plot was sandy mucky mineral (S1). All observed soil layers exhibited muck/mucky sand textured soil. Wetland datasheets documenting the characteristics of Wetland A from the field visit are included in Appendix A.

Wetland B (Figure 6B) is classified as PEM wetland located at the toe of slope south of the railway. Stream 2 (Section 6.2) flows through the wetland, oriented north-south. The delineated wetland boundary is open to the south. At the Wetland B data plot, shallow sedge and broom sedge were the dominant plant species observed. A dominance of hydrophytic vegetation was indicated within Wetland B based on the dominance test and the prevalence index. Observed wetland hydrology indicators within Wetland B consisted of high water table (A2) at a depth of eight inches, saturation (A3) at three inches, stunted or stressed plants – dead trees – (D1) and the FAC-neutral test (D5). The hydric soil indicator observed within the wetland soil data plot was redox dark surface (F6). Observed soil layers exhibited loamy/clay textured soils. Wetland datasheets documenting the characteristics of Wetland B from the field visit are included in Appendix A.

Wetland C (Figure 6A) is a PEM wetland that was observed adjacent to an access roadway off of NYS Route 28. The delineated Wetland C boundary is open to the west. At the Wetland C data plot, American bur-reed (*Sparganium americanum*) was the dominant plant species observed. A dominance of hydrophytic vegetation was indicated within Wetland C based on the dominance test and the prevalence index. Observed wetland hydrology indicators consisted, high water table (A2) at the two inches, saturation (A3) at soil surface, geomorphic position (D2), and the FAC-neutral test (D5). Observed hydric soil indicators consisted of depleted matrix (F3). A muck and mucky loam/clay texture were observed until 12 inches in depth, where the soil texture shifted to loam/clay. Wetland datasheets documenting the characteristics of Wetland C from the field visit are included in Appendix A.

Wetland D (Figure 6A) is a PEM wetland that was observed along the east side of the Woodford Dike access roadway. The delineated Wetland D boundary is open east. Dominant plant species within the wetland plot were speckled alder (*Alnus incana)*, Japanese stilt grass (*Microstegium vimineum*), and prickly sedge (*Carex stipata*). A dominance of hydrophytic vegetation was indicated within Wetland D based on the dominance test and the prevalence index. Wetland hydrology indicators, high water table (A2) at the two inches, saturation (A3) at soil surface, geomorphic position (D2) and the FAC-neutral test (D5). Hydric soil indicators met at the plot location for Wetland D consisted of depleted matrix (F3). Mucky loam/clay texture was noted until 14 inches, where it became loamy/clay. Wetland datasheets documenting the characteristics of Wetland D from the field visit are included in Attachment B.

Wetland E (Figure 6C) is a PEM wetland that is located to the south of the railway. This wetland is hydrologically fed by an upland runoff that passes from the north and through a cross culvert under the rail. At the time of the survey, water was flowing in the rocky cobble channel at about two to three inches deep (Stream 5). Within the data plot, this wetland was dominated by green bulrush (*Scirpus atrovirens*), arrow-leaf tearthumb (*Persicaria sagittata*), and Japanese stilt grass. A dominance of hydrophytic vegetation was indicated within Wetland E based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland E consisted of saturation (A3) at four inches, drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland E soil plot. Wetland datasheets documenting the characteristics of Wetland E from the field visit are included in Appendix A.

Wetland F (Figure 6E) is a PEM wetland that was observed within a low spot influenced by a stream (Stream 8) entering from the west on the north side of the railway. Vegetation in this wetland was dominated by jewelweed (*Impatiens capensis*), pink weed, silver maple (*Acer saccharinum*) and red maple (*Acer rubrum*). A dominance of hydrophytic vegetation was indicated within Wetland F based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland F consisted of, high water table (A2) at approximately one inch from the soil surface, saturation (A3) at soil surface, geomorphic position (D2), and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland F soil plot. Wetland datasheets documenting the characteristics of Wetland F from the field visit are included in Appendix A.

Wetland G (Figure 6E) is a PEM wetland that was observed along a drainage feature south of the railway, beginning where Wetland F ends. Vegetation in Wetland G was dominated by jewelweed, prickly sedge, red maple (*Acer rubrum*), white ash (*Fraxinus americana*), and American beech (*Fagus grandifolia*). A dominance of hydrophytic vegetation was indicated within Wetland G based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland G consisted of high water table (A2) at approximately two inches from the soil surface, saturation (A3) at soil surface, drainage patterns (B10), geomorphic position (D2) and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland G soil plot. Wetland datasheets documenting the characteristics of Wetland G from the field visit are included in Appendix A.

Wetland H (Figure 6E) is a PEM wetland that was observed along a drainage feature south of the railway. The Wetland H boundary was delineated and left open to the south. Vegetation in this wetland was dominated by jewelweed, Japanese stilt grass, and red maple. A dominance of hydrophytic vegetation was indicated within Wetland H based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland H consisted of saturation (A3) at approximately four inches from the soil surface, drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland H soil plot. Wetland datasheets documenting the characteristics of Wetland H from the field visit are included in Appendix A.

Wetland I (Figure 6E), a PEM wetland, is located at the toe of slope on the north side of the railway. The Wetland I boundary was left open to the north. Stream 9 was identified flowing northeast from the wetland and exiting south through a culvert under the railway. Dominant vegetation observed within Wetland I was jewelweed. A dominance of hydrophytic vegetation was indicated within Wetland I based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Plot 1 data plot consisted of saturation (A3) at the soil surface, drainage patterns (B10), geomorphic position (D2) and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland I data plot. Wetland datasheets documenting the characteristics of Wetland I from the field visit are included in Appendix A.

Wetland J (Figure 6F) is a palustrine scrub-shrub/forested (PSS/PFO) wetland to the north of the railway. The wetland was delineated within the Project Corridor and is open to the north. Dominant vegetation observed within Wetland J was red osier dogwood (*Cornus alba*), rattlesnake grass (*Glyceria canadensis*), and shallow sedge. A dominance of hydrophytic vegetation was indicated within Wetland J based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland J consisted of high water table (A2) present at three inches below soil surface, saturation (A3) at two inches below soil surface, and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland J data plot. Wetland datasheets documenting the characteristics of Wetland J from the field visit are included in Appendix A.

Wetland K (Figure 6F) is a PEM wetland, located to the south, north, and within the limits of the abandoned railway. This wetland was delineated across the Project Corridor and is open to the west, north, and south. It is associated with NYSDEC mapped Wetland AS-20. Dominant vegetation observed within Wetland K was common reed (*Phragmites australis*). A dominance of hydrophytic vegetation was indicated within Wetland K based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland K, high water table (A2) present at one inch below soil surface , saturation (A3) at the soil surface, geomorphic position (D2) and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland K data plot. A mucky loam/clay texture was observed until eight inches, where it became loamy/clay. Wetland datasheets documenting the characteristics of Wetland K from the field visit are included in Appendix A.

Wetland L (Figure 6F) is a PEM wetland, located to the south, north, and within the limits of the railway. This wetland was delineated across the Project Corridor and is open to the north, south, and east. It is associated with NYSDEC mapped Wetland AS-20. Dominant vegetation observed within Wetland L was speckled alder, red osier dogwood, and common reed. A dominance of hydrophytic vegetation was indicated within Wetland L based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland L consisted of high water table (A2) present at one inch below soil surface, saturation (A3) at the soil surface, and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland L data plot. All soil layers exhibited a mucky loam/clay texture. Wetland datasheets documenting the characteristics of Wetland L from the field visit are included in Appendix A.

Wetland M (Figure 6F) is a PEM wetland located north of the railway. This wetland was delineated in its entirety. Dominant vegetation observed within Wetland M was Japanese stilt grass and rattlesnake grass. A dominance of hydrophytic vegetation was indicated within Wetland M based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland M consisted of high water table (A2) present at one inch below soil surface, saturation (A3) at the soil surface, geomorphic position (D2) and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was observed within the Wetland M data plot. A mucky loam/clay texture was observed until a depth of ten inches, where further investigation was restricted by rail ballast. Wetland datasheets documenting the characteristics of Wetland M from the field visit are included in Appendix A.

Wetland N (Figure 6F) is a PEM wetland located south of the railway. This wetland was delineated in its entirety. Wetland N is located on the opposite side of the railway from Wetland M. Dominant vegetation observed within Wetland N was broom sedge, shallow sedge, and soft rush (*Juncus effusus*). A dominance of hydrophytic vegetation was indicated within Wetland N based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland N consisted of high water table (A2) present at two inches below soil surface, saturation (A3) at the soil surface, geomorphic position (D2) and the FAC-neutral test (D5). The hydric soil indicator depleted matrix (F3) was met by the soil profile characteristics recorded within the Wetland N data plot. A mucky loam/clay texture was observed until a depth of eight inches, where further investigation was restricted by rail ballast. Wetland datasheets documenting the characteristics of Wetland N from the field visit are included Appendix A.

Wetland O (Figure 6I) is a PEM wetland located at a topographic low point within the center of the proposed trail alignment. This wetland was delineated in its entirety. Dominant vegetation observed within Wetland O was jewelweed. A dominance of hydrophytic vegetation was indicated within Wetland O based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland O consisted of high water table (A2) present at one inch below soil surface, saturation (A3) at the soil surface, hydrogen sulfide odor (C1) and the FAC-neutral test (D5). The hydric soil indicator redox depressions (F8) was met within the Wetland O data plot. A muck texture was observed until a depth of four inches, where it became mucky loam/clay and was restricted by rail ballast at 12 inches in depth. Wetland datasheets documenting the characteristics of Wetland O from the field visit are included in Appendix A.

Wetland P (Figure 6J) is a PEM wetland located at the toe of slope east of the railway. A culvert was observed with no flowing water or defined channel passing under the railway, to the north, suggesting the area becomes inundated during storms. This storm overflow likely settles within the topographic low spot that represents Wetland P. Investigation of the western side of the culvert did not identify any wetland areas. Dominant vegetation observed within Wetland P was Japanese stilt grass, jewelweed, and white ash. A dominance of hydrophytic vegetation was indicated within Wetland P based on the dominance test and the prevalence index. Wetland hydrology indicators observed within Wetland P consisted of saturation (A3) at three inches in depth, drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5). The hydric soil indicator redox dark surface (F6) was met within the Wetland P data plot. A loamy/clay texture was observed for all soil layers. Wetland datasheets documenting the characteristics of Wetland P from the field visit are included in Appendix A.

6.2 Surface Waters

Surface waters within the Project Corridor were identified in the field during the wetland delineation effort. Potential federal jurisdiction was based on observations of bed, bank, and ordinary high water characteristics. The presence of these characteristics in streams that are hydraulically connected to other regulated resources qualify them as Waters of the U.S. under the Clean Water Act, which is regulated by the USACE. The results of the stream identification field effort are summarized below. Unmapped stream classification is discussed in Section 7, Summary and Conclusions. Stream resources can be seen on Figures 6A-6J.

Stream 1 is an unmapped stream that was observed flowing from north to south through a culvert under the railway. This stream was dry at the time of observation but held pools of approximately 3 inches depth of water in spots. The stream channel was approximately 5 feet wide and exhibited a bedrock cobble substrate (Figure 6B).

Stream 2 is an unmapped stream that was observed flowing through Wetland B, oriented north-south. This stream was observed to have flow ranging from 1-3 inches. The stream channel was approximately 3 feet wide and exhibited a cobble substrate (Figure 6B).

Stream 3 is a NYSDEC mapped stream identified as Tributary 12 of the Ashokan Reservoir (Waters Index Number H-171-P 848-12). The stream was observed flowing north to south with flowing water and a channel width of approximately 10 feet comprised of a silt and cobble substrate. The stream is classified as a Class A stream with A standards (Figure 6B).

Stream 4 is an unmapped stream observed flowing from the northwest to the southeast. Observed water depth in the channel was ½" to 1 foot with a channel width of approximately 8 feet. Total channel depth was noted at 1 ½ feet with a cobble bedrock substrate (Figure 6C).

Stream 5 is an unmapped stream feeding Wetland E as an upland runoff that passes from the north and through a cross culvert under the rail. At the time of the survey, water was flowing in the rocky cobble channel at about two to three inches deep (Figure 6C).

Stream 6 is a NYSDEC mapped stream identified as Tributary 11 of the Ashokan Reservoir (Waters Index Number H-171-P 848-11). The stream was observed flowing northwest to the southeast. Observed water depth in the channel was 2-6 inches with a channel width of approximately 3 feet. This stream is a Class A stream with A(T) standards (Figure 6D).

Stream 7 is an unmapped stream that was observed flowing from north to south through a culvert under the railway. This stream was dry at the time of observation but was a clearly defined rocky cobble channel of approximately 3 feet width (Figure 6E).

Stream 8 is an unmapped stream entering from the west on the north side of the railway at Wetland F. Flow from this stream continued south through a culvert northeast of Wetland G. Flow was observed at a depth of 2-3 inches and a width of 2 feet (Figure 6E).

Stream 9 is an unmapped stream identified flowing from the west on the northern side of the railway through Wetland I and exiting south through a culvert under the railway. Flow was observed at a depth of 2-3 inches and a width of 1-2 feet (Figure 6E).

Stream 10 is a NYSDEC mapped stream identified as Tributary 10 of the Ashokan Reservoir (Waters Index Number H-171-P 848-10). The stream was observed flowing northwest to the southeast. Observed water depth in the channel was 6-14 inches with a channel width of approximately 15 feet. This stream is a Class A stream with A(T) standards (Figure 6F).

Stream 11 is an unmapped stream that was observed flowing from north to south through a culvert under the railway. This stream held approximately 2-4 inches depth of water. The stream channel was approximately 2-3 feet wide and exhibited a silt cobble substrate. Outside and to the south of the Project Corridor, the stream was observed to widen to a channel width of approximately 15 feet (Figure 6F).

Stream 12 is a NYSDEC mapped stream identified as Tributary 9a of the Ashokan Reservoir (Waters Index Number H-171-P 848-9a). This stream held approximately 3 inches of water with a silt substrate and channel width of 1-3 feet. This resource is Class A with A(T) Standards (Figure 6G).

Stream 13 is an unmapped stream that was observed collecting drainage from the east and west of the northern boundary of the rail to the south through a culvert under the railway (Figure 6H). This stream held approximately 3 inches depth of water. The stream channel was approximately 3 feet wide and exhibited a silt substrate.

Stream 14 is a NYSDEC mapped stream identified as Butternut Creek (Waters Index Number H-171-P 848-9), the 9th Tributary of the Ashokan Reservoir. It is important to note that unlike the NYSDEC mapping, the two channels (Tributary 1 of Butternut Creek and Butternut Creek itself) converge north of the railway, not south as shown. The stream was observed flowing northeast to the southwest. Observed water depth in the channel was 3-5 inches with a channel width of approximately 15 feet. This stream is a Class A stream with A(T) standards (Figure 6H).

Stream 15 is an unmapped stream that was observed collecting drainage from the northern boundary of the rail and flowing to the south through a culvert under the railway (Figure 6H). This stream held approximately ½ -3 inches of water. The stream channel was approximately 3 feet wide and exhibited a silt and rocky cobble substrate (Figure 6I).

Stream 16 is an unmapped stream that was observed collecting drainage from the eastern boundary of the rail and continuing to the southwest through a culvert under the railway. This stream held approximately 4 inches depth of water. The stream channel was approximately 3 feet wide and exhibited a rocky cobble substrate (Figure 6I).

Stream 17 is a NYSDEC mapped stream identified as the Esopus Creek (Waters Index No. H-171). The stream was observed flowing northeast to the southwest. Observed water depth in the channel was 3-12 inches with a channel width of approximately 200 feet. This stream is a Class A stream with A(T) standards (Figure 6J).

6.3 Wetland and Surface Water Labeling

A total of 16 wetlands were identified and delineated adjacent to the Project Corridor as part of this wetland delineation field effort. Figures 6A through 6J show the locations of wetlands delineated as part of the Ashokan Rail Trail field walkover, as well as the location of the 17 observed Waters of the U.S. Table 5, below, provides the coordinates of each wetland and stream located within the Project Corridor. Identified wetland areas were individually labeled as A through P. Streams observed within the project area were labeled as Stream 1 through Stream 17. The data collected in the field were recorded on field data sheets provided in Appendix A. Color photographs of various portions of the delineated wetland resources are included in Appendix B.

Table 5. Wetland and Stream Locations

Resource ID	Type of Resource	Lat/Long Coordinates (NAD83)
A	Wetland	41°59'36.01"N, 74° 5'27.64"W
B	Wetland	42° 0'5.23"N, 74° 7'47.75"W
C	Wetland	41°59'42.48"N, 74° 5'32.51"W
D	Wetland	41°59'42.19"N, 74° 5'31.42"W
E	Wetland	41°59'44.24"N, 74° 9'14.53"W
F	Wetland	41°58'49.68"N, 74°10'57.76"W
G	Wetland	41°58'48.99"N, 74°10'59.81"W
H	Wetland	41°58'40.09"N, 74°11'21.86"W
I	Wetland	41°58'35.38"N, 74°11'34.48"W
J	Wetland	41°58'20.23"N, 74°12'15.83"W
K	Wetland	41°58'17.03"N, 74°12'24.42"W
L	Wetland	41°58'17.69"N, 74°12'24.47"W
M	Wetland	41°58'10.89"N, 74°12'40.99"W
N	Wetland	41°58'10.72"N, 74°12'40.71"W
O	Wetland	41°58'20.68"N, 74°14'37.94"W
P	Wetland	42° 0'2.59"N, 74°16'12.76"W

Table 5. Wetland and Stream Locations

Resource ID	Type of Resource	Lat/Long Coordinates (NAD83)
1	Stream	42°0'3.955"N, 74°7'35.846"W
2	Stream	42°0'4.43"N, 74°7'50.57"W
3	Stream	42°0'3.126"N, 74°8'5.448"W
4	Stream	41°59'57.381"N, 74°8'51.728"W
5	Stream	41°59'43.523"N, 74°9'14.097"W
6	Stream	41°59'29.018"N, 74°9'45.409"W
7	Stream	41°58'51.309"N, 74°10'51.827"W
8	Stream	41°58'49.08"N, 74°10'57.858"W
9	Stream	41°58'36.267"N, 74°11'34.791"W
10	Stream	41°58'27.057"N, 74°11'55.15"W
11	Stream	41°58'24.273"N, 74°12'4.192"W
12	Stream	41°58'1.983"N, 74°13'10.877"W
13	Stream	41°58'2.626"N, 74°13'44.729"W
14	Stream	41°58'13.383"N, 74°14'23.43"W
15	Stream	41°58'26.086"N, 74°14'54.98"W
16	Stream	41°58'44.687"N, 74°15'28.768"W
17	Stream	41°59'56.32"N, 74°16'14.05"W

7.0 Summary and Conclusions

This wetland and stream delineation effort was completed to determine the locations of freshwater wetlands and waters within and adjacent to the Ashokan Rail Trail Project Corridor, located in the Towns of Hurley and Olive, Ulster County, New York. Based on the field observations and data associated with each delineated wetland, 13 wetlands (A-L and P) meet the criteria for federal wetland jurisdiction and are regulated by the USACE under Section 404 of the Clean Water Act. Wetlands M, N, and O are presumed to be isolated due to lack of bed and bank features, or observed connectivity to any additional Waters of the U.S. Wetlands M and N appear to function as localized drainage ditches, while Wetland O was observed with no inlet or outlet in a topographic low spot within the center of the trail alignment. Regardless of field observations and conclusions, the USACE has the final determination regarding federal resource jurisdiction. The Project Corridor travels through one NYSDEC mapped wetland (AS-20) and adjacent to another, NYSDEC mapped wetland (AS-19). An Article 24 permit will be required for proposed disturbance within delineated Wetlands K and L (as they are associated with NYSDEC mapped Wetland AS-20) and for disturbance within the 100-foot buffer of NYSDEC mapped Wetlands AS-19 and AS-20. A summary table of the wetlands delineated within the Project Corridor, and their recorded characteristics and federal indicators, is provided below.

Table 6. Wetland Data Plot Information and Federal Wetland Criteria

Wetland ID	Wetland Cover Type Class	Hydrologic Indicators	Dominant Vegetation	Hydrophytic Vegetation Indicator	Hydric Soil Indicator
A	Emergent	A2, A3, D2, D5	Broom sedge, shallow sedge, pinkweed	Dominance test	S1
B	Emergent	A2, A3, D1, D5	Shallow sedge, broom sedge	Dominance test	F6
C	Emergent	A2, A3, D2, D5	American bur-reed	Dominance test	F3
D	Emergent	A2, A3, D2, D5	Speckled alder, Japanese stilt grass, prickly sedge	Dominance test	F3
E	Emergent	A3, B10, D2, D5	Green bulrush, arrow-leaf tearthumb, Japanese stilt grass	Dominance test	F6
F	Emergent	A2, A3, D2, D5	Jewelweed, pinkweed, silver maple, red maple	Dominance test	F6
G	Emergent	A2, A3, B10, D2, D5	Jewelweed, prickly sedge, red maple, white ash, American beech	Dominance test	F6
H	Emergent	A3, B10, D2, D5	Jewelweed, Japanese stilt grass, red maple	Dominance test	F6
I	Emergent	A3, B10, D2, D5	Jewelweed	Dominance test	F6
J	Forested/ Scrub-shrub	A2, A3, D5	Red osier dogwood, rattlesnake grass, shallow sedge	Dominance test	F6
K	Emergent	A2, A3, D2, D5	Common reed	Dominance test	F6
L	Emergent	A2, A3, D5	Speckled alder, red osier dogwood, common reed	Dominance test	F6
M	Emergent	A2, A3, D2, D5	Japanese stilt grass, rattlesnake grass	Dominance test	F6
N	Emergent	A2, A3, D2, D5	Broom sedge, shallow sedge, soft rush	Dominance test	F3
O	Emergent	A2, A3, C1, D5	Jewelweed	Dominance test	F8
P	Emergent	A3, B10, D2, D5	Japanese stilt grass, jewelweed, white ash	Dominance test	F6

During the field walkover, stream resources identified within the Project Corridor that met the definition of Waters of the U.S. were recorded. These resources, a total of 17, are assumed to be regulated by the USACE under Section 404 of the Clean Water Act. In addition, six of these streams constitute NYSDEC mapped and protected streams, each with a Class A designation. While eight NYSDEC mapped streams were indicated during the preliminary site investigation (Section 3.5), one stream, Tributary 8 of the Ashokan Reservoir (H-171-P 848-8), was not observed during the field walkover, and a second stream, Tributary 1 of Butternut Creek (H-171-P 848-9-1), was observed outside (north) of the Project Corridor and was therefore not included in the field delineation. In addition to the six NYSDEC mapped streams, 11 unmapped water resources were identified during the site walkover, and were observed to meet criteria to be recognized as federally regulated Waters of the U.S. These 11 tributaries are assumed to be Class A waters, since unmapped streams typically assume the water quality classification of the water body into which they discharge. The mapped streams are regulated by the NYSDEC under the Protection of Waters Program (Article 15) due to their high quality and contribution to a drinking water source. The stream and wetland resources delineated within the Project Corridor will also be reviewed and permitted, if impacted, by the NYCDEP.

A Section 404 Permit from the USACE and a Section 401 Water Quality Certification from the NYSDEC will be required if any temporary or permanent impacts to these wetlands or streams are proposed as part of the project. Wetlands and Waters of the U.S. will be avoided and impacts minimized to the extent possible. Specific resource and location impacts will be determined during the detailed design phase. Feasible mitigative options will be reviewed and identified if greater than 0.1-acre of wetland will be permanently impacted, or permanent impacts to stream resources and aquatic function will occur. Applicable state and federal permits will be identified during the detailed design phase based on the calculated impacts, and a Joint Application for Permit will be assembled and submitted to the USACE, NYSDEC, and NYCDEP to request permit issuance in support of the proposed Ashokan Rail Trail project.

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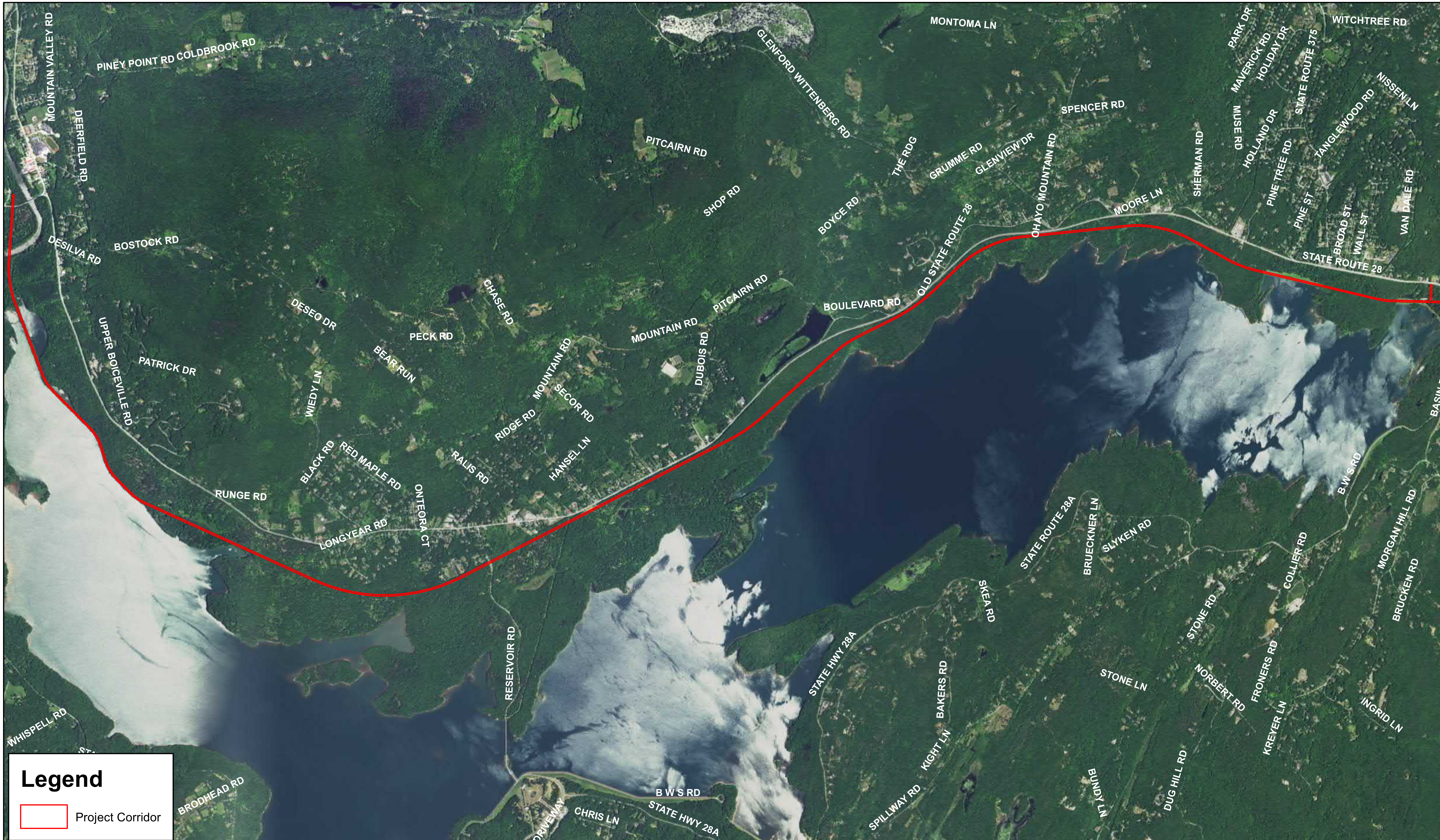
Figure 1

Site Location Map – Aerial Imagery



1 inch = 3,000 feet

Ulster County
Ashokan Rail Trail - Aerial Imagery
Ulster County March 2017 New York

Figure 1
Project No. 369.007

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

Figure 2

Site Location Map – Topographic Imagery

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

Ulster County
Ashokan Rail Trail - Topographic Imagery
Ulster County | March 2017 | New York

Figure 2
Project No. 369.007

Figures 3 and 3A

NRCS Mapped Soils

Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 1,500 feet

Ulster County

Ashokan Rail Trail - NRCS Soils

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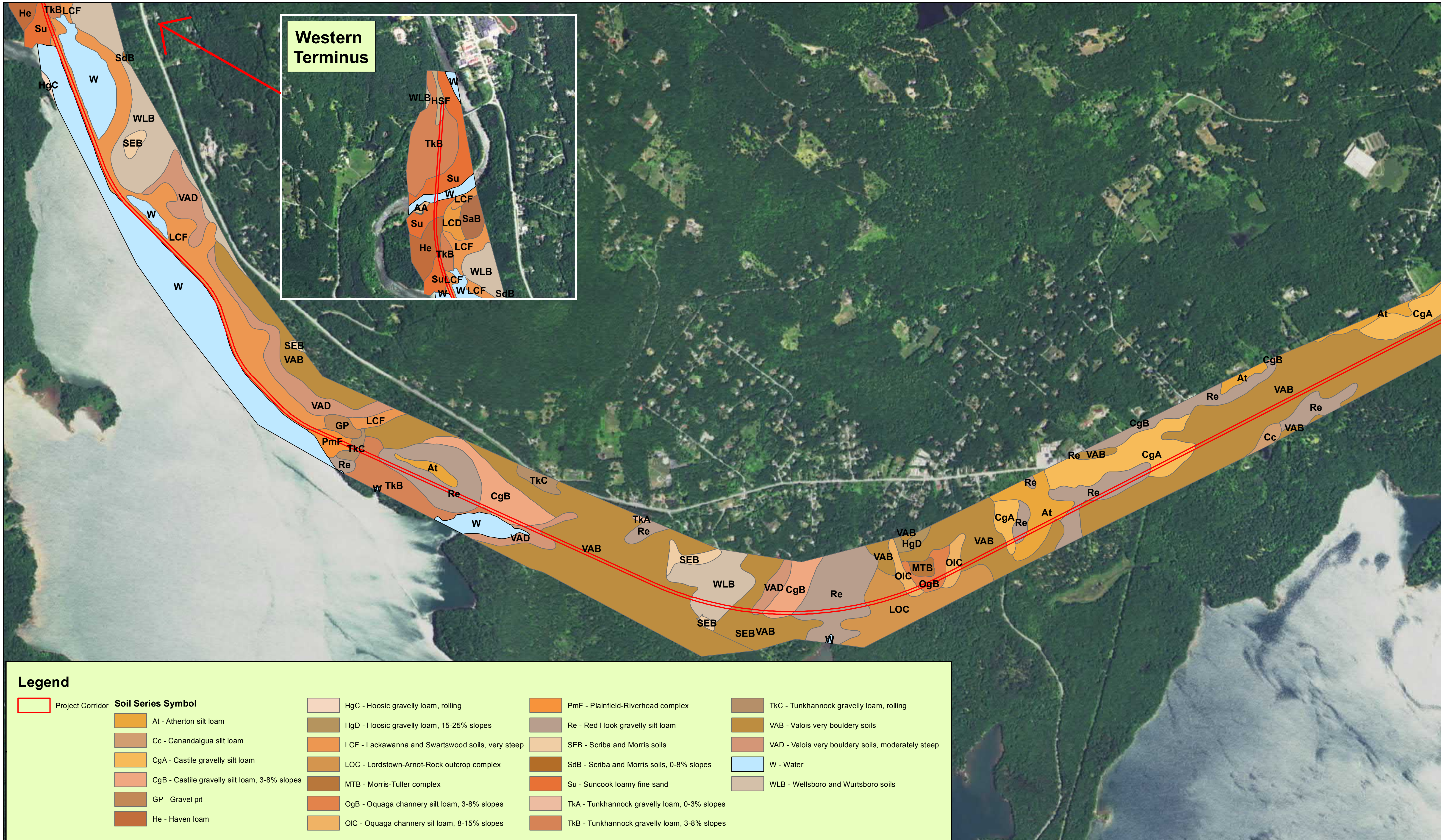
Figure 3

Project No. 369.007



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N W E S

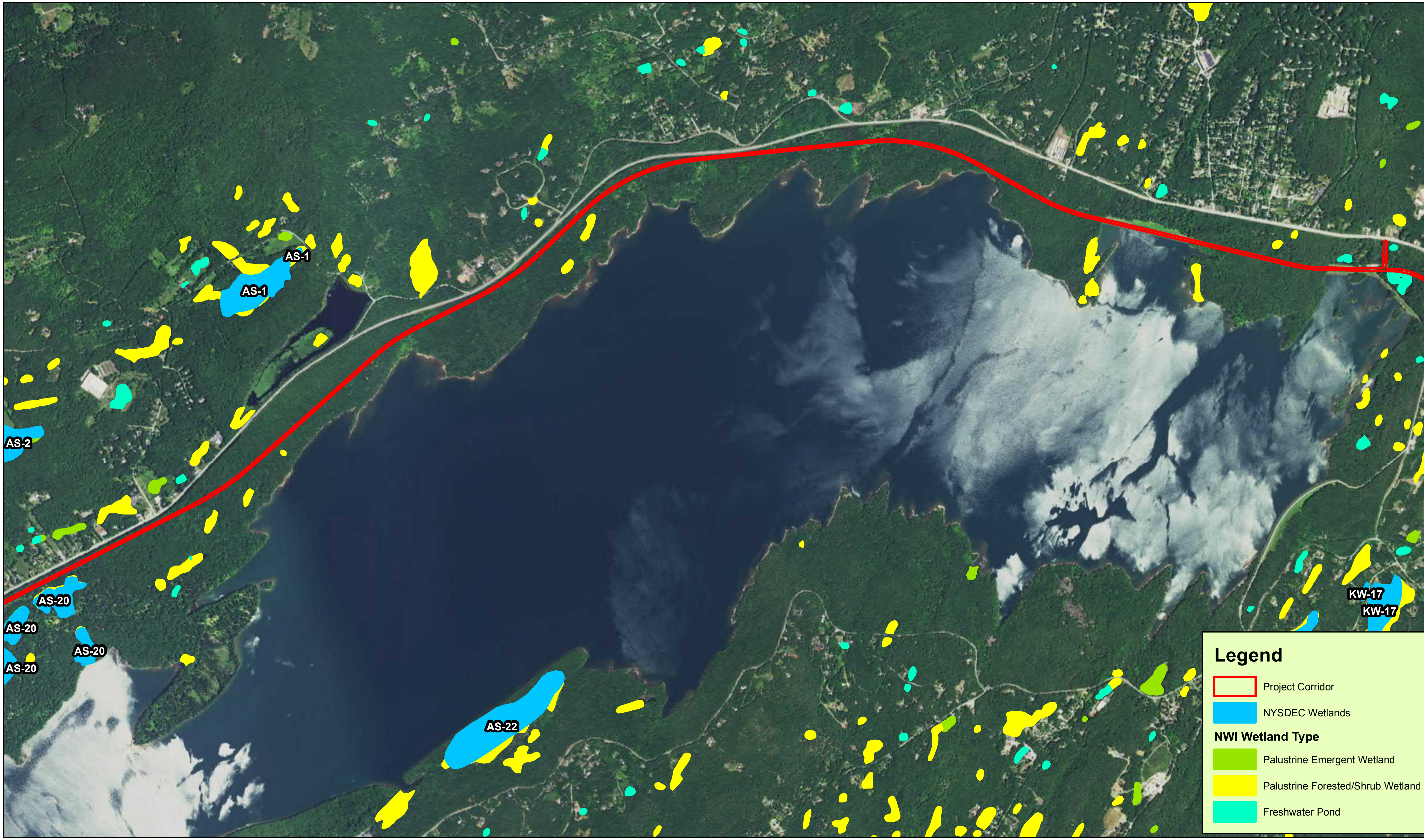
1 inch = 1,500 feet

Ulster County
Ashokan Rail Trail - NRCS Soils
Ulster County March 2017 New York

Figure 3A
Project No. 369.007

Figures 4 and 4A

NYSDEC/NWI Wetlands



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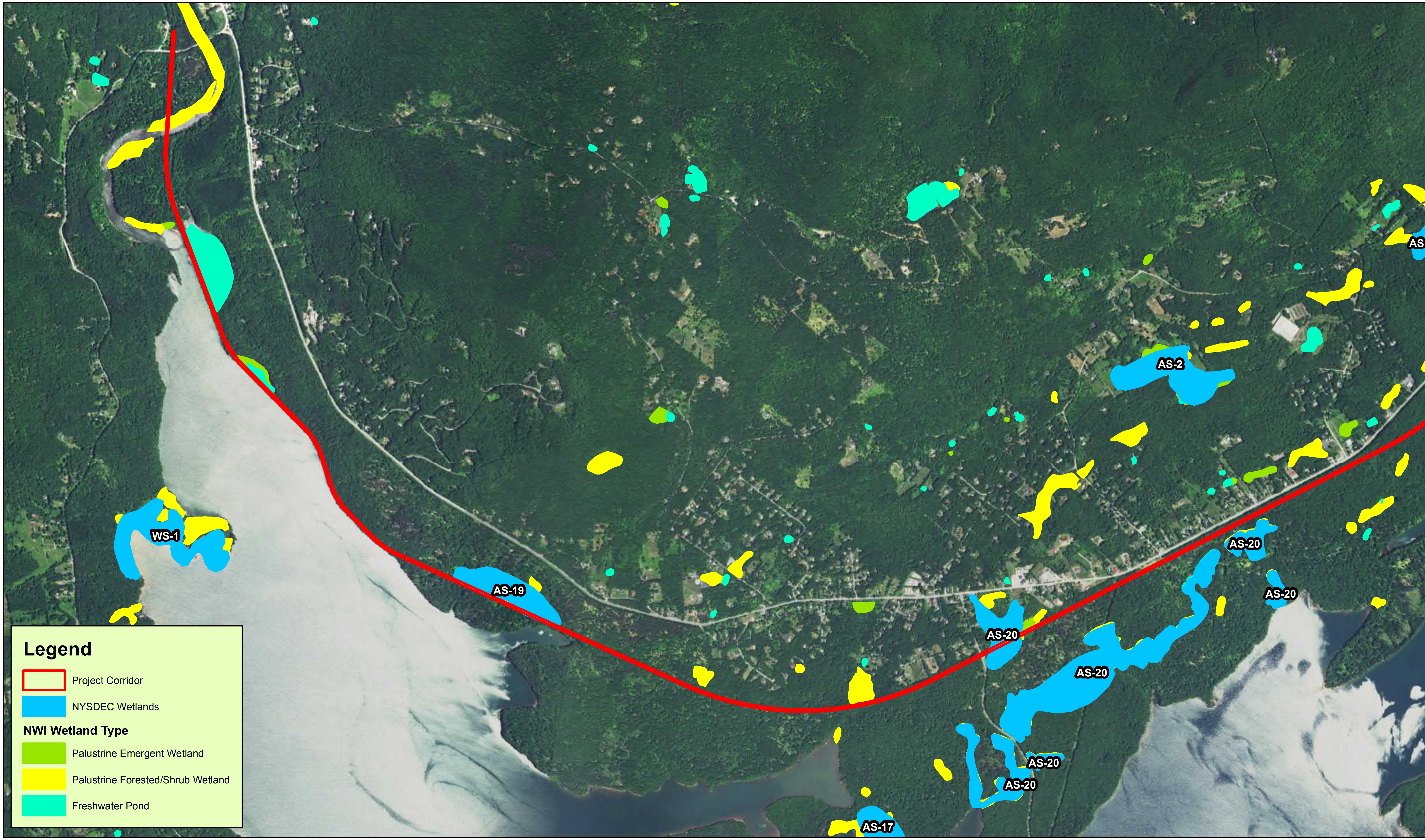
1 inch = 1,750 feet

Ulster County
Ashokan Rail Trail - NYSDEC/NWI Wetlands
Ulster County | March 2017 | New York

Figure 4

Project No. 369.007



Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

N W E S

1 inch = 1,750 feet

Ulster County

Ashokan Rail Trail - NYSDEC/NWI Wetlands

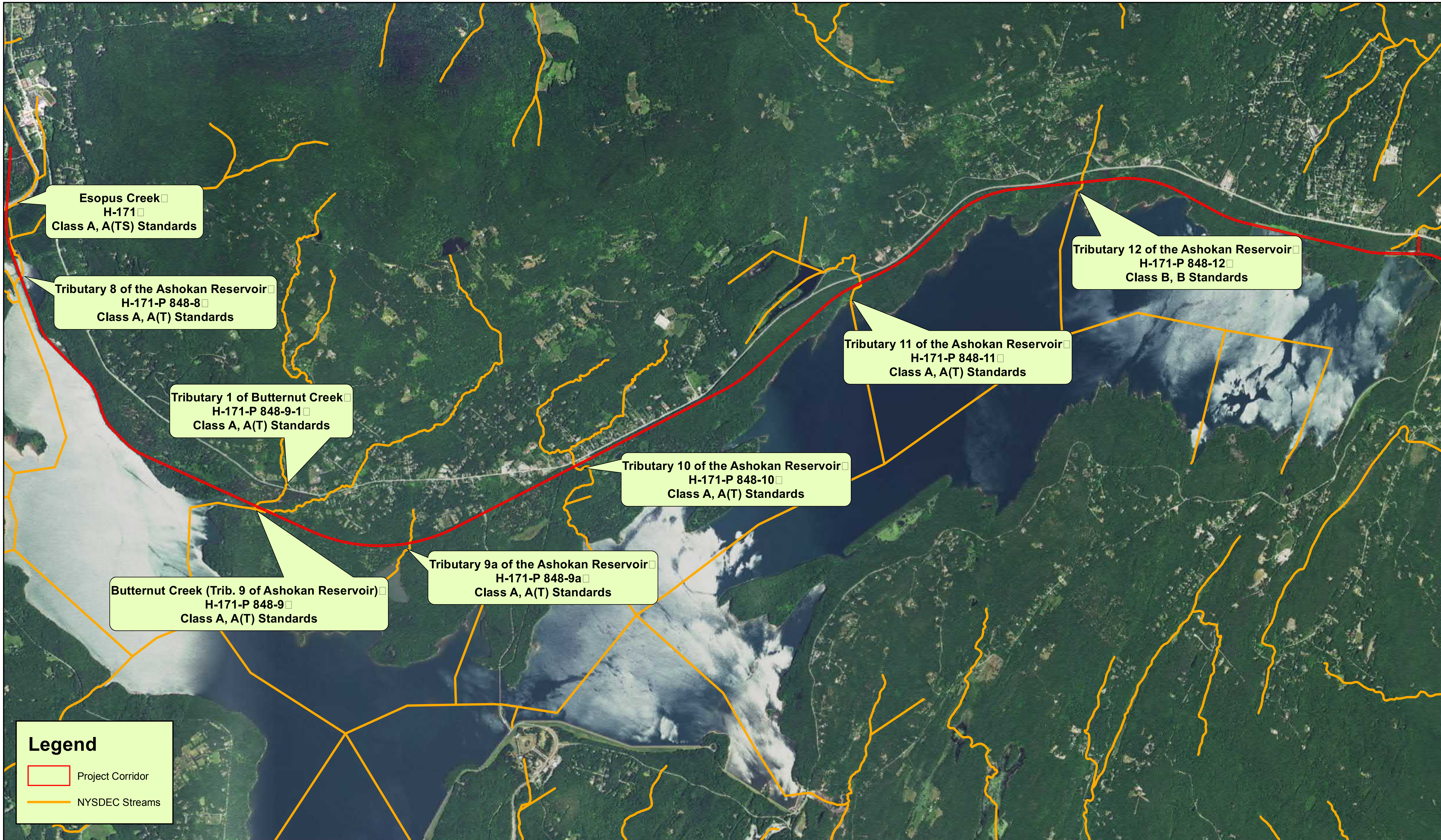
Ulster County | March 2017 | New York

Figure 4A

Project No. 369.007

Figure 5

NYSDEC Mapped Streams



Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 3,000 feet

Ulster County

Ashokan Rail Trail - NYSDEC Mapped Streams

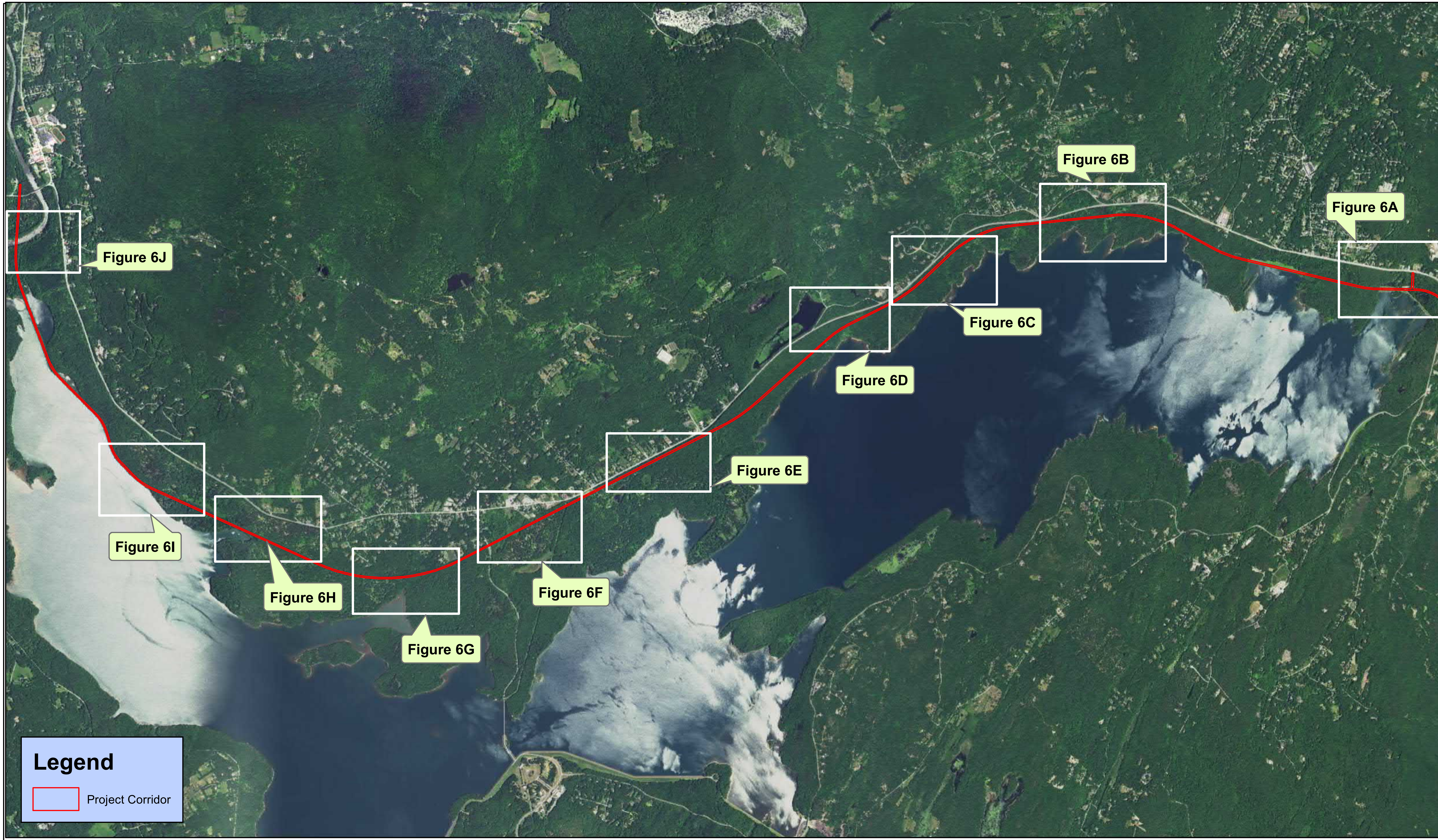
Ulster County March 2017 New York

Figure 5

Project No. 369.007

Figures 6A-6J

Delineated Resources



Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 3,000 feet

Ulster County Planning Department
Ashokan Rail Trail -
Delineated Resources Index Sheet
Ulster County January 2017 New York

Figure 6
Project No. 369.007

Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

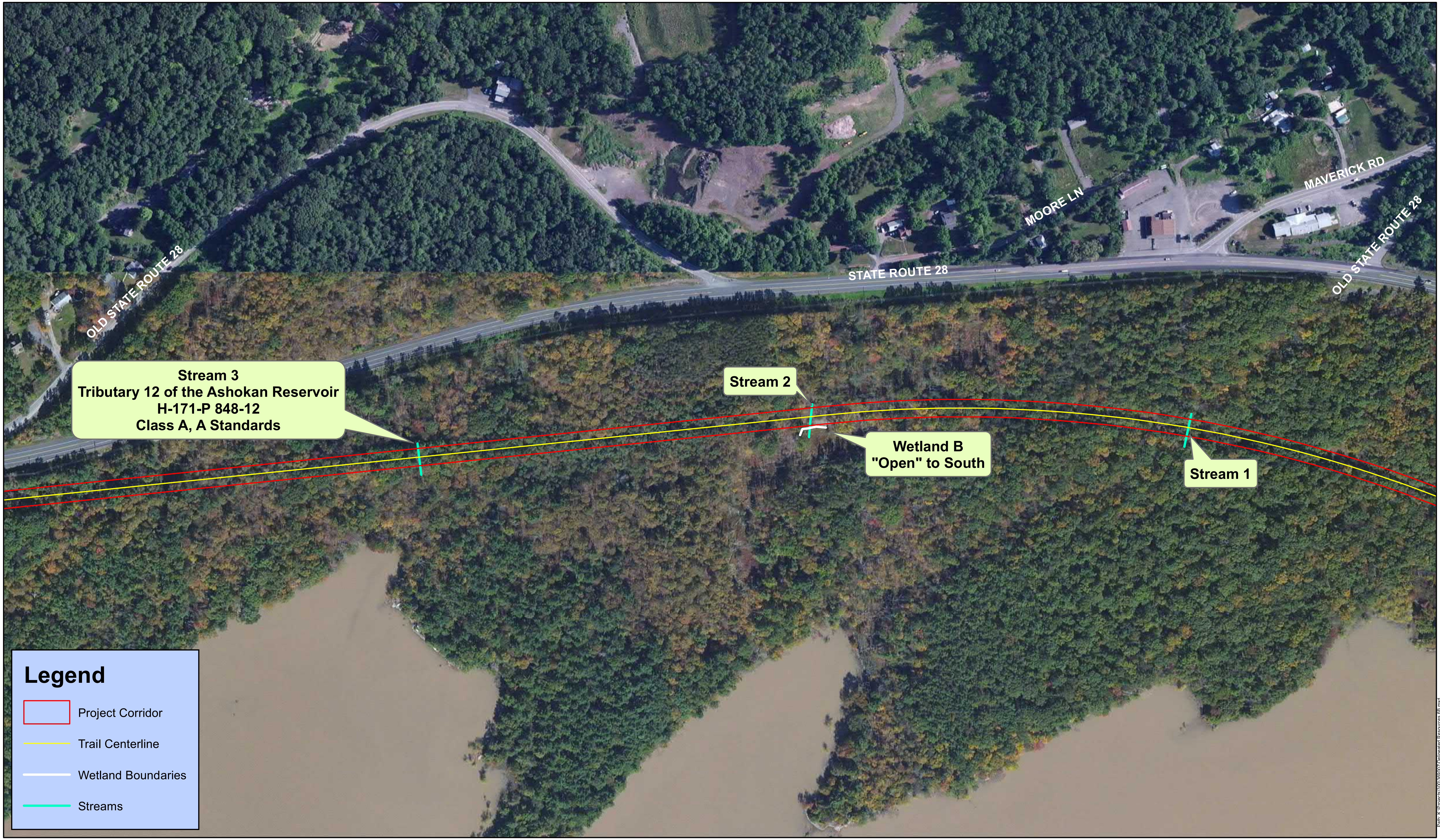
Ulster County Planning Department

Ashokan Rail Trail - Delineated Resources

Ulster County | May 2017 | New York

Figure 6A

Project No. 369.007



Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

N W E S

1 inch = 250 feet

Ulster County Planning Department

Ashokan Rail Trail -
Delineated Resources

Ulster County | May 2017 | New York

Figure 6B

Project No. 369.007

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

Ulster County Planning Department
Ashokan Rail Trail - Delineated Resources
Ulster County May 2017 New York

Figure 6C
Project No. 369.007

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

Ulster County Planning Department
Ashokan Rail Trail -
Delineated Resources
Ulster County May 2017 New York

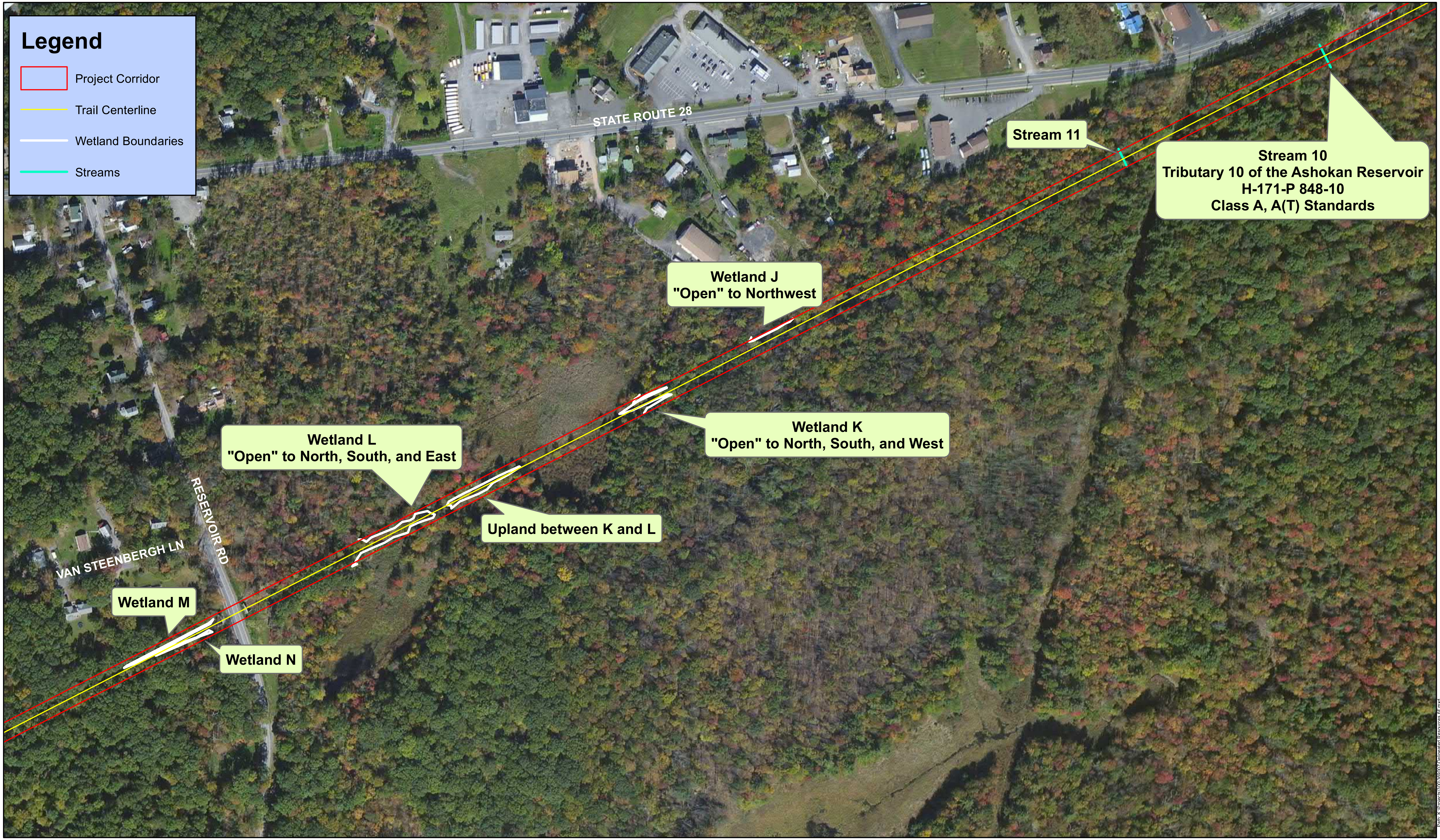
Figure 6D
Project No. 369.007

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

Ulster County Planning Department
Ashokan Rail Trail - Delineated Resources
Ulster County | May 2017 | New York

Figure 6E
Project No. 369.007



Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

Ulster County Planning Department
Ashokan Rail Trail - Delineated Resources
Ulster County May 2017 New York

Figure 6F
Project No. 369.007

Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

Ulster County Planning Department

Ashokan Rail Trail - Delineated Resources

Ulster County | May 2017 | New York

Figure 6G

Project No. 369.007

Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

Ulster County Planning Department

Ashokan Rail Trail - Delineated Resources

Ulster County | May 2017 | New York

Figure 6H

Project No. 369.007

Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 250 feet

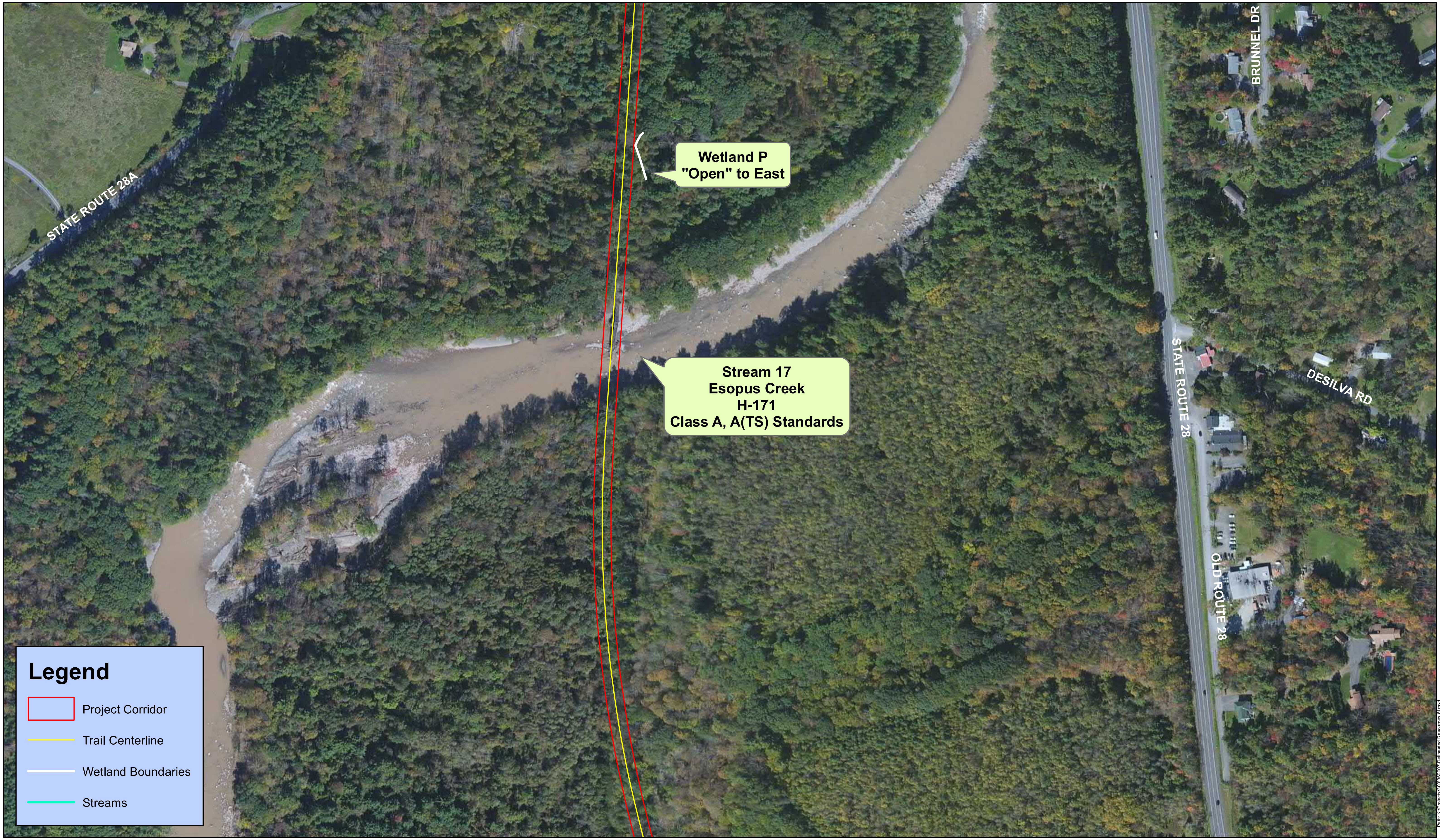
Ulster County Planning Department

Ashokan Rail Trail - Delineated Resources

Ulster County | May 2017 | New York

Figure 6I

Project No. 369.007



Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

N
W E
S

1 inch = 250 feet

Ulster County Planning Department
Ashokan Rail Trail -
Delineated Resources
Ulster County | January 2017 | New York

Figure
6J
Project No.
369.007

Appendix A

Wetland/Upland
Field Delineation Datasheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet A

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ______

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 30

Subregion (LRR or MLRA): LRR R Lat: 41°59'36.01"N Long: 74° 5'27.64"W Datum: NAD '83

Soil Map Unit Name: Oquaga-arnot-rock outcrop complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ___
Hydric Soil Present? Yes X No ___
Wetland Hydrology Present? Yes X No ___

Is the Sampled Area within a Wetland? **Yes** X **No** ___
If yes, optional Wetland Site ID: ______

Remarks: (Explain alternative procedures here or in a separate report.)
Located on south side of trail, just northeast of Ashokan Reservoir and the Woodstock Dike. Area is an impoundment of water, mostly likely fed by seepage from the reservoir and is mapped by the NWI.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
X High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes X No ___ Depth (inches): 0
Saturation Present? Yes X No ___ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology present at surface. Ponding potentially fed by Ashokan reservoir. Water table was noted to be at surface; the majority of wetland was inundated with depths of water ranging from 2"-12+".

VEGETATION – Use scientific names of plants.

Sampling Point: Wet A

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		

Sapling/Shrub Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		

Herb Stratum (Plot size: 5)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carex scoparia*	25	Yes	FACW
2. *Carex lurida*	20	Yes	OBL
3. *Persicaria pensylvanica*	20	Yes	FACW
4. *Lemna minor*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 =Total Cover		

Woody Vine Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		120 (B)

Prevalence Index = B/A = 1.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
All vegetation noted was hydrophytic, with duckweed present on surface waters.

SOIL

Sampling Point Wet A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/1						Muck	50% Organic material
3-6	10YR 2/1	80	10YR 5/4	20	C	M	Mucky Sand	Distinct redox concentrations
6-8	10YR 3/2	80	10YR 6/8	20	C	M	Mucky Sand	Prominent redox concentrations
8-10	2.5YR 5/4	100					Mucky Sand	
10-22	2.5YR 6/4	90	7.5YR 4/6	10	C	M	Mucky Sand	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

The indicator S1 (sandy mucky mineral) was satisfied as greater than 2" of mucky sand material was present within the upper 6" of the soil. The top layers were primarily dark muck that shifted to a much lighter matrix below 6". There were few, but prominent, redox concentrations present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL A

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°59'36.01"N Long: 74° 5'27.64"W Datum: NAD '83

Soil Map Unit Name: OrC NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Located on south side of trail, just west of Ashokan Reservoir.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	0
Water Table Present?	Yes ____	No X	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	0

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL A

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	45	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	45	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Populus tremuloides*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fragaria vesca*	30	Yes	UPL
2. *Microstegium vimineum*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	55	x 4 =	220
UPL species	30	x 5 =	150
Column Totals:	100 (A)		415 (B)

Prevalence Index = B/A = 4.15

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100						
4-10	10YR 5/2	100						
10-24	10YR 5/2	90	10YR 5/3	10				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet B

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 42° 0'5.23"N Long: 74° 7'47.75"W Datum: NAD 83

Soil Map Unit Name: Morris Tuller complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland? Yes** X **No** ____
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland B

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland B is located at the toe of slope on the south side of the abandoned rail line. North of this location, Old State Route 28 converges with the current State Route 28 and it is just east of Maverick Cove. No mapped wetlands are indicated in this area but an unmapped stream resources runs through from north to south. The wetland continues southward, toward the Ashokan Reservoir.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 3

Wetland Hydrology Present? Yes X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Wet B

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Lonicera*	2	No	
2.			
3.			
4.			
5.			
6.			
7.			
	2	=Total Cover	
Herb Stratum (Plot size:)			
1. *Carex lurida*	60	Yes	OBL
2. *Carex scoparia*	25	Yes	FACW
3. *Juncus effusus*	10	No	OBL
4. *Glyceria*	2	No	
5. *Poaceae*	2	No	
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	99	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		120 (B)

Prevalence Index = B/A = 1.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Prominent wetland vegetation evident.

SOIL

Sampling Point Wet B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	85	5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations
6-8	10YR 3/2	98	10YR 6/8	2	C	M	Loamy/Clayey	Prominent redox concentrations
8-12	10YR 3/2	85	10YR 6/8	15	C	M	Loamy/Clayey	Prominent redox concentrations
12-18	10YR 3/2	88	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
			10YR 5/8	2				
18-23	10YR 4/3	70	10YR 5/8	30	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The hydric soil indicator F6 (redox dark surface) was satisfied within the first layer of soil (1-6"), which had a color of 10YR 3/1 with 15% redox concentrations. Indicator F6 is met when 4" layer of soil, entirely within the upper 12", has a matrix value of 3 or less and chroma of 1 or less with at least 2% or more distinct or prominent redox concentrations,

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL B

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 42° 0'5.23"N Long: 74° 7'47.75"W Datum: NAD 83

Soil Map Unit Name: MtB NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ? Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL B

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Quercus rubra*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size:)			
1. *Poaceae*	60	Yes	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	15 (A)		60 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/4							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 2

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet C

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°59'42.48"N Long: 74° 5'32.51"W Datum: NAD 83

Soil Map Unit Name: Oquaga-Arnot-Rock outcrop complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland? Yes** X **No** ____
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland C

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland C is ponded on west side of reservoir access roadway near the Woodstock and Glenford Dike areas, and is parallel to Wetland D. Both wetlands are mapped by NWI. A stream resource feeds this wetland from the north; a culvert under the access drive allows for hydrology to pass to Wetland D.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)
X High Water Table (A2)	___ Aquatic Fauna (B13)
X Saturation (A3)	___ Marl Deposits (B15)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): 0
Water Table Present?	Yes X	No ____	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
At wetland plot, high water table and saturation at surface were noted. Wetland also features considerable ponding of surface water, from 2-4" and deeper in spots.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet C

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Sparganium americanum*	50	Yes	OBL
2. *Eupatorium perfoliatum*	5	No	FACW
3. *Lemna minor*	5	No	OBL
4. *Impatiens capensis*	2	No	FACW
5. *Galium*	2	No	
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	64 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	7	x 2 =	14
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	62 (A)		69 (B)

Prevalence Index = B/A = 1.11

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Prominent wetland vegetation evident.

SOIL

Sampling Point Wet C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Muck	15% organic material
4-6	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Mucky Loam/Clay	Prominent redox concentrations
6-12	2.5Y 6/2	70	2.5Y 5/6	30	C	M	Mucky Loam/Clay	Prominent redox concentrations
12-24	2.5Y 6/3	80	2.5Y 6/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
_X_ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** _X_ **No** ___

Remarks:
The hydric soil indicator F3 (depleted matrix) was met when both criteria (2" within upper 6" or 6" within upper 10" of soil with chroma of 2 or less). A chroma of 2 or less was noted to a depth of 12". Additionally, prominent redox concentrations were noted in all layers from 6" to 24" depth.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL C/D

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°59'42.48"N Long: 74° 5'32.51"W Datum: NAD 83

Soil Map Unit Name: OrC NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland C on west side of reservoir access roadway.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches):
Surface Water Present?		X	
Water Table Present?		X	
Saturation Present? (includes capillary fringe)		X	

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet D

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 10

Subregion (LRR or MLRA): LRR R Lat: 41°59'42.19"N Long: 74° 5'31.42"W Datum: NAD 83

Soil Map Unit Name: Oquaga-Arnot-Rock outcrop complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ___	**within a Wetland? Yes** X **No** ___
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland D is ponded on the east side of reservoir access roadway near the Woodstock and Glenford Dike areas, and is parallel to Wetland C. Both wetlands are mapped by NWI. An offsite stream resource feeds wetland C from the north; a culvert under the access drive allows for hydrology to pass to Wetland D.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
At wetland plot, high water table and saturation at surface were noted. Wetland also features considerable ponding of surface water, from 2-4" and deeper in spots.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet D

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Alnus incana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	60	Yes	FAC
2. *Carex stipata*	20	Yes	OBL
3. *Scirpus atrovirens*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	10	x 2 =	20
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		230 (B)

Prevalence Index = B/A = 2.30

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Prominent hydrophytic vegetation present.

SOIL

Sampling Point Wet D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2		100						Organic Matter
2-6	10YR 2/1	100					Mucky Loam/Clay	
6-8	10YR 2/1	75	10YR 6/8	25	C	M	Mucky Loam/Clay	Distinct redox concentrations
8-14	2.5Y 6/2	85	10YR 6/8	15	C	M	Mucky Loam/Clay	Distinct redox concentrations
14-24	2.5Y 6/3	80	2.5Y 6/6	20	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)

___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
_X_ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** _X_ **No** ___

Remarks:

The hydric soil indicator F3 (depleted matrix) was met when both criteria (6" within upper 10" of soil with chroma of 2 or less). A chroma of 2 or less was noted to a depth of 12" for all layers. Additionally, prominent redox concentrations were noted in all layers from 6" to 24" depth.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet E

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope %: 15

Subregion (LRR or MLRA): LRR R Lat: 41°59'44.24"N Long: 74° 9'14.53"W Datum: ____

Soil Map Unit Name: Oquaga-Arnot-Rock outcrop complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland E

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland E was located on the south side of the rail corridor and continued southeast beyond the delineated limits. No wetland mapping is recorded in this area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
X Saturation (A3)	____ Marl Deposits (B15)	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	
____ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
X Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
____ Shallow Aquitard (D3)
____ Microtopographic Relief (D4)
X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturation was present within 4" of the soil surface. Visible drainage patterns were noted in bare patches of soil as well as bent vegetation suggesting water passage.

VEGETATION – Use scientific names of plants. Sampling Point: Wet E

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Scirpus atrovirens*	25	Yes	OBL
2. *Persicaria sagittata*	15	Yes	OBL
3. *Microstegium vimineum*	15	Yes	FAC
4. *Phleum pratense*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	60 (A)		105 (B)

Prevalence Index = B/A = 1.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
A dominance of wetland vegetation was present. The invasive Japanese stiltgrass was present throughout the corridor and on the wetland E fringe.

SOIL

Sampling Point Wet E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	90	2.5Y 7/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
2-6	10YR 3/2	85	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
			2.5Y 7/8	5	C	M		Prominent redox concentrations
6-14	5YR 3/2	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
14-22	5YR 4/3	90	7.5YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)

___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ________

Depth (inches): ________

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The hydric soil indicator F6 (redox dark surface) was met as the upper 14" demonstrated a value of 3 with a chroma of 2 or less in all layers. Redox features were noted throughout all layers, as well.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Hurley/Ulster Sampling Date: 6/28/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL E

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: ____ Long: ____ Datum: ____

Soil Map Unit Name: OrC NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL E

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		

Sapling/Shrub Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		

Herb Stratum (Plot size: 5)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Phleum pratense*	60	Yes	FACU
2. *Microstegium vimineum*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 =Total Cover		

Woody Vine Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	70 (A)		270 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 3/2							
2-12	10YR 4/2							
12-18	10YR 4/3							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet F

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 10

Subregion (LRR or MLRA): LRR R Lat: 41°58'49.68"N Long: 74°10'57.76"W Datum: NAD 83

Soil Map Unit Name: Valois very bouldery soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland F

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland F was located on the north side of the railroad tracks, south of the intersection of Dubois Road and Route 28. Wetland G was located on the south side of the tracks, at the western end of Wetland F.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soil was saturated at surface, with the water table within 1 inch of the surface.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet F

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	50	Yes	FACW
2. *Acer rubrum*	45	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	95	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	45	Yes	FACW
2. *Persicaria pensylvanica*	15	Yes	FACW
3. *Persicaria sagittata*	5	No	OBL
4. *Lemna minor*	5	No	OBL
5. *Pilea pumila*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	115	x 2 =	230
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		375 (B)

Prevalence Index = B/A = 2.21

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Prominent hydrophytic vegetation noted with the dominance test.

SOIL

Sampling Point: Wet F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic detritus
2-4	10YR 2/2	95	10YR 6/8	5	C	M	Mucky Loam/Clay	Prominent redox concentrations
4-10	10YR 2/2	85	10YR 6/8	15	C	M	Mucky Loam/Clay	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 10

Hydric Soil Present? **Yes** X **No** ___

Remarks:

The indicator F6 (redox dark surface) was met as all soil layers exhibited a value of 2 with a chroma of 2 with 5-15% redox concentrations present. All were within 10 inches as ballast prohibited further depth.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL F

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ___

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): ___ Slope %: ___

Subregion (LRR or MLRA): LRR R Lat: ___ Long: ___ Datum: ___

Soil Map Unit Name: VaB NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ___ No X	**within a Wetland?** **Yes** ___ **No** X
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: ___

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
___ High Water Table (A2)	___ Aquatic Fauna (B13)	
___ Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UPL F

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fragaria vesca*	50	Yes	UPL
2. *Galium aparine*	20	Yes	FACU
3. *Alliaria petiolata*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	50	x 5 =	250
Column Totals:	100 (A)		430 (B)

Prevalence Index = B/A = 4.30

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2						Loamy/Clayey	
2-20	10YR 4/2						Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 10

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet G

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 5

Subregion (LRR or MLRA): LRR R Lat: 41°58'48.99"N Long: 74°10'59.81"W Datum: NAD 83

Soil Map Unit Name: Valois very bouldery soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ___	**within a Wetland?** **Yes** X **No** ___
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: Wetland G

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland G was located on the south side of the rail corridor, opposite from Wetland F's western edge.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The soil surface was saturated and water table was within 2" of the surface. Drainage patterns were also visible.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet G

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	Yes	FAC
2. *Fraxinus americana*	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fagus grandifolia*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	40	Yes	FACW
2. *Carex stipata*	30	Yes	OBL
3. *Glyceria canadensis*	15	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	40	x 2 =	80
FAC species	15	x 3 =	45
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	125 (A)		270 (B)

Prevalence Index = B/A = 2.16

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
The dominance test was indicated for hydrophytic vegetation.

SOIL

Sampling Point: Wet G

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Loamy/Clayey	
2-6	10YR 3/2	60	10YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations
			10YR 6/8	20	C	M		Prominent redox concentrations
6-10	10YR 3/2	60	10YR 6/8	25	C	M	Loamy/Clayey	Prominent redox concentrations
			10YR 5/8	15	C	M		Prominent redox concentrations
10-23	10YR 3/3	70	10YR 4/6	30	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

The soil indicator, F6 (redox dark surface), was met within the first 6" of soil. Both layers had a matrix of 3 or less and chroma of 2 or less; from 2-6", prominent redox concentrations were present, totalling 40%.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL G

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: ____ Long: ____ Datum: ____

Soil Map Unit Name: VaB NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____ No X	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL G

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.	15	Yes	
2.	15	Yes	
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.	10	Yes	
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	20	Yes	FAC
2. *Fragaria vesca*	15	Yes	UPL
3. *Quercus rubra*	10	Yes	FACU
4. *Toxicodendron radicans*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	10	x 4 =	40
UPL species	15	x 5 =	75
Column Totals:	50 (A)		190 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL G

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2							
2-6	10YR 4/2							
6-18	10YR 4/3							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** ____ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet H

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 15

Subregion (LRR or MLRA): LRR R Lat: 41°58'40.09"N Long: 74°11'21.86"W Datum: ____

Soil Map Unit Name: Valois very bouldery soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland H

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland H was located south of the railroad corridor in a drainage swale. This drainage feature likely feeds Wetland G.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)
____ High Water Table (A2)	____ Aquatic Fauna (B13)
X Saturation (A3)	____ Marl Deposits (B15)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)
____ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturation was present within 4 inches of the soil surface, and visible drainage patterns were noted.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet H

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	90	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	35	Yes	FACW
2. *Microstegium vimineum*	30	Yes	FAC
3. *Persicaria pensylvanica*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	120	x 3 =	360
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	165 (A)		450 (B)

Prevalence Index = B/A = 2.73

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
A dominance of hydric vegetation was present within the wetland.

SOIL

Sampling Point Wet H

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2							
2-6	10YR 3/2	85	10YR 6/8	15	C	M	Loamy/Clayey	Prominent redox concentrations
6-14	10YR 3/2	85	10YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations
14-22	10YR 3/3	80	10YR 5/6	20	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The hydric soil indicator F6 (redox dark surface) was satisfied when the layer between 2-6" had a value of 3 and chroma of 2, with prominent redox concentrations of 15%.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL H

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°58'40.09"N Long: 74°11'21.86"W Datum: ____

Soil Map Unit Name: VaB NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 0	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL H

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size:)			
1. *Alliaria petiolata*	35	Yes	FACU
2. *Rosa multiflora*	25	Yes	FACU
3. *Urtica dioica*	15	No	FAC
4. *Galium aparine*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	185 (A)		625 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL H

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 2

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet I

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 5

Subregion (LRR or MLRA): LRR R Lat: 41°58'35.38"N Long: 74°11'34.48"W Datum: NAD 83

Soil Map Unit Name: Valois very bouldery soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland I

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland I was located on the north side of the rail corridor in a drainage swale.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
___ High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
X Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soils were saturated at surface and visible drainage patterns were present.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet I

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Impatiens capensis*	90	Yes	FACW
2. *Carex scoparia*	3	No	FACW
3. *Persicaria pensylvanica*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	=Total Cover	

Woody Vine Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
A dominance of wetland vegetation was present.

SOIL

Sampling Point Wet I

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	25% organic matter
2-6	10YR 3/2	83	10YR 5/8	15	C	M	Loamy/Clayey	Prominent redox concentrations
			5Y 7/8	2	C	M		Prominent redox concentrations
6-12	10YR 3/2	60	10YR 5/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
			5Y 7/6	10	C	M		Prominent redox concentrations
12-22	10YR 6/4	60	10YR 5/6	20	C	M	Loamy/Clayey	Distinct redox concentrations
			5Y 7/6	10	C	M		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)

___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The soil indicator F6 (redox dark surface) was met between 2-6", which exhibited a matrix of 3 and chroma of 2 with 17% redox concentrations.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL I

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°58'35.38"N Long: 74°11'34.48"W Datum: NAD 83

Soil Map Unit Name: VaB NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UPL I

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carya ovata*	20	Yes	FACU
2. *Acer rubrum*			FAC
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Poaceae spp.*	50	Yes	FACU
2. *Rosa multiflora*	10	No	FACU
3. *Persicaria pensylvanica*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	62	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	82 (A)		324 (B)

Prevalence Index = B/A = 3.95

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL I

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2							Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet J

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ______

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 10

Subregion (LRR or MLRA): LRR R Lat: 41°58'20.23"N Long: 74°12'15.83"W Datum: NAD 83

Soil Map Unit Name: Red hook gravelly silt loam NWI classification: PSS/PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** **Yes** X **No** ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: Wetland J

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland J was located in a drainage swale north of the corridor, just east of wetlands L and K.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The water table was present at 3 inches, with saturation at 2.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet J

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba*	25	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Glyceria canadensis*	30	Yes	OBL
2. *Carex lurida*	15	Yes	OBL
3. *Sparganium americanum*	10	No	OBL
4. *Typha angustifolia*	10	No	OBL
5. *Toxicodendron radicans*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	67	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	25	x 2 =	50
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		121 (B)

Prevalence Index = B/A = 1.32

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Dominant wetland vegetation was present.

SOIL

Sampling Point Wet J

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	98	5YR 4/6	2	C	M	Loamy/Clayey	Prominent redox concentrations
2-12	10YR 2/1	80	5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
12-23	10YR 3/2	85	5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

The hydric soils indicator F6 (redox dark surface) was met as within the first 12", the soils exhibited a value of 2 and chroma of 1, with redox concentrations 20 percent in the 2-12" layer.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail | City/County: Olive/Ulster | Sampling Date: 6/29/16

Applicant/Owner: Ulster County | State: NY | Sampling Point: UPL J

Investigator(s): Johanna Duffy, Corinne Steinmuller | Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ | Local relief (concave, convex, none): ____ | Slope %: ____

Subregion (LRR or MLRA): LRR R | Lat: 41°58'20.23"N | Long: 74°12'15.83"W | Datum: NAD 83

Soil Map Unit Name: Re | NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ? Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?		X	
Water Table Present?		X	
Saturation Present? (includes capillary fringe)		X	

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL J

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		

Sapling/Shrub Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	25	Yes	FACU
2. *Lonicera tatarica*	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	40 =Total Cover		

Herb Stratum (Plot size: 5)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Dryopteris carthusiana*	2	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	2 =Total Cover		

Woody Vine Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Vitis aestivalis*	10	Yes	FACU
2.			
3.			
4.			
	10 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	52 (A)		204 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL J

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2						Loamy/Clayey	
2-20	10YR 4/2							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet K

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Flat plain Local relief (concave, convex, none): concave Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 41°58'17.03"N Long: 74°12'24.42"W Datum: NAD 83

Soil Map Unit Name: Atherton silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?**	**Yes** X **No** ____
Hydric Soil Present?	Yes X No ____	If yes, optional Wetland Site ID:	Wetland K
Wetland Hydrology Present?	Yes X No ____		

Remarks: (Explain alternative procedures here or in a separate report.)
This wetland is located on the across the entire width of the project corridor and is open to the west, north, and south. It is mapped as NYSDEC wetland AS-20. The wetland K line represents the eastern boundary of AS-20 and wetland L represents the western boundary, with one upland island between.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Areas of the wetland were ponded with up to 3" of water. The soils were saturated at surface and the water table was evident at 1".

VEGETATION – Use scientific names of plants.

Sampling Point: Wet K

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	80	Yes	FACW
2. *Onoclea sensibilis*	10	No	FACW
3. *Carex lurida*	2	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	92	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. *Vitis riparia*	2	No	FAC
2.			
3.			
4.			
	2	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	90	x 2 =	180
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	94 (A)		188 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
The invasive phragmites dominated this wetland.

SOIL

Sampling Point Wet K

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 2.5/2	90	7.5YR 4/6	10	C	M	Mucky Loam/Clay	Prominent redox concentrations
2-8	10YR 3/2	80	10YR 4/6	20	C	M	Mucky Loam/Clay	Prominent redox concentrations
8-16	10YR 3/2	60	7.5YR 6/8	40	C	M	Loamy/Clayey	Prominent redox concentrations
16-22	10YR 4/2	60	7.5YR 6/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)

___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The hydric soil indicator F6 (redox dark surface) was met within the first 8" of soil with values of 3 or less and chroma of 2 and redox concentrations ranging from 10-20%.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL K

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°58'17.03"N Long: 74°12'24.42"W Datum: NAD 83

Soil Map Unit Name: At, Re, CgA NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? **Yes** ___ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ___	Depth (inches): ___
Water Table Present?	Yes ___	No ___	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ___	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL K

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Malva neglecta*	25	Yes	UPL
2. *Fragaria vesca*	10	Yes	UPL
3. *Toxicodendron radicans*	2	No	FAC
4. *Verbascum thapsus*	2	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	39	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. *Vitis riparia*	2	No	FAC
2.			
3.			
4.			
	2	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	4	x 3 =	12
FACU species	100	x 4 =	400
UPL species	37	x 5 =	185
Column Totals:	141 (A)		597 (B)

Prevalence Index = B/A = 4.23

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL K

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/2	100					Loamy/Clayey	
2-7	7.5YR 4/3	100					Loamy/Clayey	
7-20	7.5YR 3/4							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ______
Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet L

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Flat plain Local relief (concave, convex, none): concave Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 41°58'17.69"N Long: 74°12'24.47"W Datum: NAD 83

Soil Map Unit Name: Atherton silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** **Yes** X **No** ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: Wetland L

Remarks: (Explain alternative procedures here or in a separate report.)
This wetland is located on the across the entire width of the project corridor and is open to the east, north, and south. It is mapped as NYSDEC wetland AS-20. The wetland L line represents the western boundary of AS-20 and wetland L represents the western boundary, with one upland island between.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Areas of the wetland were ponded with up to 3" of water. The soils were saturated at surface and the water table was evident at 1".

VEGETATION – Use scientific names of plants.

Sampling Point: Wet L

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Alnus incana*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Cornus alba*	5	Yes	FACW
2. *Phragmites australis*	2	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	7	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	57	x 2 =	114
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	57 (A)		114 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Bryophyte ground cover. The invasive phragmites dominated this wetland.

SOIL

Sampling Point: Wet L

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/2	85	10YR 5/6	15	C	M	Mucky Loam/Clay	Prominent redox concentrations
3-8	10YR 3/2	85	10YR 4/6	15	C	M	Mucky Loam/Clay	Prominent redox concentrations
8-18	10YR 3/2	60	7.5YR 6/8	60	C	M	Mucky Loam/Clay	Prominent redox concentrations
18-24	10YR 4/2	40	10YR 4/6	20	C	M	Mucky Loam/Clay	Prominent redox concentrations
			7.5YR 6/8	20	C	M		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The hydric soil indicator F6 (redox dark surface) was met within the first 8" of soil with values of 3 or less and chroma of 2 and redox concentrations at 15%.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet M

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR R Lat: 41°58'10.89"N Long: 74°12'40.99"W Datum: NAD 83

Soil Map Unit Name: Valois very bouldery soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** **Yes** X **No** ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: Wetland M

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland M was a drainage ditch feature north of the railway with no visible connections to other waters of the U.S., parallel to wetland N to the south.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water was noted at a depth of 2 inches in locations. High water table was present at 1" and saturation at soil surface.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet M

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	25	Yes	FAC
2. *Glyceria canadensis*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		100 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Sparse vegetation was hydrophytic in nature.

SOIL

Sampling Point: Wet M

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Mucky Loam/Clay	Org 35%
2-10	10YR 2/1	85	10YR 5/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 10

Hydric Soil Present? **Yes** X **No** ___

Remarks:
The soils met the indicator F6 (redox dark surface) within the 10" assessed. A value of 2 and chroma of 1 were noted, with redox concentrations at 15%. The soils were restricted by ballast material at 10", prohibiting further investigation.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet M

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°58'10.89"N Long: 74°12'40.99"W Datum: NAD 83

Soil Map Unit Name: VaB NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? **Yes** ___ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Wet M

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Poaceae*	25	Yes	FACU
2. *Verbascum thapsus*	15	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	15	x 5 =	75
Column Totals:	40 (A)		175 (B)

Prevalence Index = B/A = 4.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point Wet M

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 2

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 6/29/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet N

Investigator(s): Johanna Duffy, Corinne Steinmuller Section, Township, Range: ___

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR R Lat: 41°58'10.72"N Long: 74°12'40.71"W Datum: NAD 83

Soil Map Unit Name: Valois very bouldery soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ___	**within a Wetland? Yes** X **No** ___
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: Wetland N

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland N was a drainage ditch feature to the south with no visible connections to other waters of the U.S., parallel to wetland M to the north.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	
X High Water Table (A2)	___ Aquatic Fauna (B13)	
X Saturation (A3)	___ Marl Deposits (B15)	
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water was noted to a depth of 3" in places. High water table was noted at 2" and saturation at surface.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet N

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex scoparia*	30	Yes	FACW
2. *Carex lurida*	30	Yes	OBL
3. *Juncus effusus*	25	Yes	OBL
4. *Equisetum arvense*	15	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	30	x 2 =	60
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
A dominance of wetland vegetation was noted.

SOIL

Sampling Point: Wet N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/1	90	10YR 5/6	10	C	M	Mucky Loam/Clay	Prominent redox concentrations
3-8	10YR 4/1	90	10YR 6/6	10	C	M	Mucky Loam/Clay	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
_X_ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 8

Hydric Soil Present? **Yes** _X_ **No** ___

Remarks:
Soils met the indicator F6 (redox dark surface) within the 8" assessed. A value of 2 and chroma of 1 were noted, with redox concentrations at 10%. Soils were observed to a depth of 8" due to a restrictive layer of ballast.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 7/7/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet O

Investigator(s): Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 10

Subregion (LRR or MLRA): LRR R Lat: 41°58'20.68"N Long: 74°14'37.94"W Datum: NAD 83

Soil Map Unit Name: Red Hook gravelly silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: Wetland O

Remarks: (Explain alternative procedures here or in a separate report.)
The wetland was located in a low spot crossing the rail corridor with no observed inlet or outlet.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)
X High Water Table (A2)	____ Aquatic Fauna (B13)
X Saturation (A3)	____ Marl Deposits (B15)
____ Water Marks (B1)	X Hydrogen Sulfide Odor (C1)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)
____ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
A high water table was present within 1" of the soil surface with saturation at surface. Additionally, hydrogen sulfide odor was noticed.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet O

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	60	Yes	FACW
2. *Microstegium vimineum*	20	No	FAC
3. *Persicaria sagittata*	15	No	OBL
4. *Scirpus atrovirens*	5	No	OBL
5. *Urtica dioica*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	60	x 2 =	120
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		215 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
A prevalance of hydrophytic vegetation was located within the wetland.

SOIL

Sampling Point Wet O

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2						Mucky Loam/Clay	Organic matter 20%
2-4	10YR 3/2	85	10YR 5/8	15	C	M	Loamy/Clayey	Prominent redox concentrations
4-12	10YR 3/3	85	10YR 5/6	10	C	M	Loamy/Clayey	Distinct redox concentrations
			10YR 5/8	5	C	M		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

The indicator F8 (redox depressions) was also met due to the presence of low spot ponding and prominent redox concentrations of 15% within all soil layers.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 7/7/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL O

Investigator(s): Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 41°58'20.68"N Long: 74°14'37.94"W Datum: NAD 83

Soil Map Unit Name: ____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL O

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer pensylvanicum*	10	Yes	FACU
2. *Robinia pseudoacacia*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer pensylvanicum*	80	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fallopia japonica*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	120	x 4 =	480
UPL species	0	x 5 =	0
Column Totals:	120	(A)	480 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL O

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Loamy/Clayey	
2-4	10YR 3/2	100					Loamy/Clayey	
4-12	10YR 4/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Ballast

Depth (inches): 12

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 7/7/16

Applicant/Owner: Ulster County State: NY Sampling Point: Wet P

Investigator(s): Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope %: 20

Subregion (LRR or MLRA): LRR R Lat: 42° 0'2.59"N Long: 74°16'12.76"W Datum: NAD 83

Soil Map Unit Name: Tunkhannock gravelly loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____ Hydric Soil Present? Yes X No ____ Wetland Hydrology Present? Yes X No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____ If yes, optional Wetland Site ID: Wetland P

Remarks: (Explain alternative procedures here or in a separate report.)
At the base of a steep slope, this wetland was located north of the Esopus Creek.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 3

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturation was present within 3" of the soil surface. Drainage patterns were visible in distinctly bent vegetation.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet P

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus americana*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	45	Yes	FAC
2. *Impatiens capensis*	45	Yes	FACW
3. *Scirpus atrovirens*	5	No	OBL
4. *Juncus effusus*	2	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	97	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	7	x 1 =	7
FACW species	45	x 2 =	90
FAC species	45	x 3 =	135
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	107	(A)	272 (B)

Prevalence Index = B/A = 2.54

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
A dominance of wetland vegetation was present.

SOIL

Sampling Point Wet P

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2						Loamy/Clayey	
2-4	10YR 3/2	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
4-10	10YR 3/2	60	10YR 4/6	40	C	M	Loamy/Clayey	Prominent redox concentrations
10-22	10YR 3/2	60	10YR 5/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
_X_ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** _X_ **No** ___

Remarks:

The hydric soil indicator F6 (redox dark surface) was met within the first 10" of soil. The value was 3 and chroma was 2, with redox concentrations between 20 and 40%.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ashokan Rail Trail City/County: Olive/Ulster Sampling Date: 7/7/16

Applicant/Owner: Ulster County State: NY Sampling Point: UPL P

Investigator(s): Corinne Steinmuller Section, Township, Range: ____

Landform (hillside, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope %: ____

Subregion (LRR or MLRA): LRR R Lat: 42° 0'2.59"N Long: 74°16'12.76"W Datum: NAD 83

Soil Map Unit Name: TkB NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UPL P

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus americana*	25	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	50	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	75 (A)		250 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UPL P

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 3/2						Loamy/Clayey	
2-4	10YR 3/3						Loamy/Clayey	
4-18	10YR 4/3						Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Appendix B

Site Photographs

Photo 1. Wetland A looking east.

Photo 2. Wetland B looking south.

Photo 3. Wetland C looking south.

Photo 4. Wetland D looking east.

Photo 5. Wetland E looking south.

Photo 6. Wetland F looking east.

Photo 7. Wetland G looking south.

Photo 8. Wetland J looking north.

Photo 9. Wetland K on either side of rail, looking east.

Photo 10. Wetland K looking north.

Photo 11. Wetland M looking east.

Photo 12. West of Wetlands M and N.

Photo 13. Wetland N drainage continuing northwest.

Photo 14. Wetland O looking east.

Photo 15. Wetland P looking north.

Photo 16. Typical culvert under rail.

Photo 17. Typical stream crossing south of railway, from culvert.

Photo 18. Flow of stream through large culvert.

Photo 19. Typical stream through corridor.

Photo 20. Butternut creek, looking south from failed culvert.

Barton & Loguidice, D.P.C.

Memo To:	Project File	**Date:**	September 22, 2017
From:	Thomas Baird, P.E. and Corinne I. Steinmuller Environmental Scientist II	**Project No.:**	369.007.001
Subject:	Threatened and Endangered Species Habitat Assessment Ashokan Rail Trail		

Project Area and Description

Barton & Loguidice, D.P.C. (B&L), has been retained by Ulster County to provide preliminary and final design services for the proposed Ashokan recreational trail located along the County-owned 11.5 mile abandoned railroad corridor on the northern shore of the Ashokan Reservoir spanning from Milepost K10 (Basin Road in West Hurley) to Milepost K21.5 (Route 28A overpass in Boiceville).

The project includes repurposing of the existing ballast, removal of rail, rail hardware, and deteriorated creosote rail ties, construction of two pedestrian bridges, and maintenance to existing culvert structures. The location of the project area is shown on the enclosed Figures 1 and 2, aerial and topographic mapping respectively. The project corridor can also be found on the USGS 7 ½-minute Kingston West, Ashokan, West Shokan, Bearsville, and Phoenicia quadrangles between 42° 0'20.87"N, 74°16'16.63"W and 41°59'5.60"N, 74° 5'13.93"W (NAD 83).

Areas adjacent to the project corridor consist of residential and commercial property to the north associated with NYS Route 28. To the south of the corridor, the Ashokan Reservoir serves as a drinking water source for New York City and is recreationally limited to fishing and non-motorized boat usage. The railway itself travels through mature mid-successional forest and will cross the Esopus Creek on a new bridge on the western end of the proposed trail.

Federally Protected Species

The U.S. Fish and Wildlife Service (USFWS) New York Field Office's website was reviewed to determine whether any federally listed endangered, threatened, or candidate species are known to inhabit the proposed project area. The USFWS' Information for Planning and Consulation (IPaC) System reported three federally protected species that could potentially inhabit the project corridor: the Indiana bat (*Myotis sodalis* – Endangered), the northern long-eared bat (*Myotis septentrionalis* – Threatened), and the bog turtle (*Clemmys muhlenbergii* – Threatened). A printout of the IPaC results is included as Attachment A.

Critical Habitat

A review of designated critical habitat areas within New York State was completed. No such areas exist within or adjacent to the project area.

New York State Protected Species

The Natural Heritage Program (NHP) was contacted for information regarding the reported presence of any endangered species, threatened species, species of special concern, or significant natural communities within or adjacent to the project corridor. A response was received from the NHP on July 26, 2016, which indicated three records of rare or state-listed animals or plants and significant natural communities at the site or in its immediate vicinity. The bald eagle (*Haliaeetus leucocephalus*- Threatened) was identified to have nested within 400 feet of the project corridor. An Indiana bat maternity colony was identified within 250 feet of the project corridor. Additionally, a high quality occurrence of an uncommon community type, a bluestone vernal pool, was identified .5 miles east of the corridor. The NHP's response letter is included for review as Attachment B.

Availability of Suitable Habitat

A habitat assessment of the project corridor was completed by staff of B&L's Ecology Group on June 28-29 and July 7, 2016. Proposed access road sites were assessed on May 17, 2017. The main objective of this habitat assessment was to identify the presence of any state or federally protected species within or adjacent to the project corridor, or the presence of suitable habitat for any of the reported species.

Northern long-eared and Indiana bats

These bat species select roosting trees based on the tree's location, position within the landscape, bark characteristics, and ability to provide cavities or crevices. Suitable roosting and foraging habitat for the bats includes mixed age stands of trees greater than 3" diameter at breast height (DBH), with foraging habitat containing areas of open water. These habitat requirements were observed within and adjacent to the proposed project corridor. In accordance with the 2016 Range-wide Indiana Bat Summer Survey Guidelines (this document applies to both Indiana bat and northern long-eared bats), most trees greater than 3" DBH are considered potential habitat for the northern long-eared bats, and greater than 4" DBH for the Indiana bat. The dominant tree species observed within the project corridor include: red maple (*Acer rubrum*), striped maple (*Acer pensylvanicum*), shagbark hickory (*Carya ovata*), silver maple (*Acer saccharinum*), northern red oak (*Quercus rubra*), eastern white pine (*Pinus strobus*), and American beech (*Fagus grandifolia*). Approximately 9.2 acres of woody vegetation, including shrubs <3" intermixed with larger DBH trees, are proposed for clearing. In accordance with the aforementioned USFWS resources, trees greater than 3" DBH requiring removal are to be cut between October 1st and March 31st during the conservation cutting window timelines. Project photographs showing the characteristics of the Ashokan Rail Trail project corridor are included as Attachment C.

Bald Eagle Review

The bald eagle was removed from the federal Endangered Species list in 2007, but is still afforded federal protection under the Bald and Golden Eagle Protection Act (BGEPA) and state protection under the Environmental Conservation Law. Accordingly, the project areas were assessed to determine whether potential impacts to this species may occur. During coordination with the NHP, breeding bald eagles were reported within 400 feet of the project corridor. A review of the 2000-2005 New York State Breeding Bird Atlas Survey (BBA) was also completed. Historical sightings of bald eagles were reported for the project corridor. A pair holding territory were reported for block 5664B, a singing male present in block 5664A, and nest with young in 5564B. Results of this record review are included as Attachment D. See Discussion and Effect Determination for further information.

Breeding Bird Atlas

During the review of Survey Blocks 5764A, 5664B, 5665D, 5664A, and 5564B of the 2000-2005 BBA, one NYS Threatened species and six NYS Species of Special Concern were identified as being observed near the project corridor. Table 1, below, lists bird species identified by the BBA Survey Blocks mentioned above to potentially inhabit the project corridor. Results of the Breeding Bird Atlas query are included as Attachment D.

NYSDEC Nature Explorer

Review of the NYSDEC Nature Explorer query resulted in restricted species. It is presumed these species are those reported by the NYNHP. Results of the Nature Explorer query are included as Attachment E.

Table 1: 2000-2005 New York State Breeding Bird Atlas Results- Ashokan Rail Trail

Species Name	Survey Block	Behavior Code*	NYS Legal Status	Suitable Habitat	Suitable Habitat Within proposed areas of disturbance?
Osprey (*Pandeon haliaetus*)	5764A, 5664B	X1	Special Concern	Fish dependent; located near Adirondack lakes, rivers, and wetlands. Nest at the top of dead trees or artificial nesting platforms. While these characteristics are abundant surrounding these project areas, only limited impacts are expected to these habitats due to noise during construction.	Yes
Bald eagle (*Haliaeetus leucocephalus*)	5664B, 5664A, 5564B	T2, S2, NY	Threatened	Bald eagles require large, undisturbed open-water areas such as rivers or lakes. Nests are typically built along the edge of these large waterbodies, in conifer or deciduous trees with large branches and open crowns. Observed within 400' of proposed disturbed area.	Yes
Red-shouldered hawk (*Buteo lineatus*)	5764A, 5664B, 5665D, 5564B	T2, D2, FY, X1	Special Concern	Forest birds that prefer an open sub-canopy for hunting. Can be found in suburban areas with mixed forest and housing.	Yes
American bittern (*Botaurus lentiginosus*)	5664B	P2	Special Concern	Shallow, freshwater marshes. Tend to stay hidden among dense vegetation. Freshwater wetland / marshes avoided by re-alignment of trail	No
Sharp-shinned hawk (*Accipiter striatus*)	5664B, 5564B	T2, X1	Special Concern	Birds of the forest and forest edge and are not found in areas where trees are scarce, except during migration. During the breeding season this hawk can be found in dense protected, forested stands which often contain conifers.	Yes
Whip-poor-will (*Caprimulgus vociferos*)	5664B, 5664A	D2, S2	Special Concern	Forests with open understory. Found in both deciduous and deciduous pine mix. Nest on forest floor and are strictly nocturnal.	No
Common nighthawk (*Chordeiles minor*)	5664B	X1	Special Concern	Nest on bare soil and/or rock in forest clearings, but have also been known to nest on gravel rooftops.	No

* X1= Species observed in possible nesting habitat, but no other indication of breeding noted; singing male(s) present (or breeding calls heard) in breeding season. T2= Pair apparently holding territory. In addition to territorial singing, chasing of other individuals of same species often marks a territory. S2= Singing male present (or breeding calls heard). NY= Nest with young. FY= Adults with food for young. D2= Courtship and display, agitated behavior or anxiety calls suggesting probable presence of nearby nest or young.

Discussion and Effect Determinations

Based on the site observations documented during the habitat assessment for the proposed Ashokan Rail Trail, potential effects to suitable habitats for the state or federal protected species listed for the project corridor are anticipated as discussed below.

Indiana and northern long-eared bats

Suitable bat roosting habitat was identified adjacent to the project corridor. Tree removal will be required in certain overgrown sections of trail, to remove dead and stressed Ash trees, and several areas where trees inhibit drainage or pose a threat to trail users. Tree removal required as part of this project will be completed during the Time of Year Conservation Cutting Window: October 1st to March 31st. To assist with USFWS' coordination, Phase 1 Summer Habitat Assessment forms are included in Attachment F. By adhering to the Conservation Cutting Window timelines as a protective measure, the proposed project is recommended to have a determination of May Affect, Not Likely to Adversely Affect the Indiana or northern long-eared bats. Additional Best Management Practices (BMPs) will be utilized during the duration of the project to limit impacts to freshwater resources adjacent to the project areas.

Bog turtle

The bog turtle, the smallest of the emydid turtles, spends much of the time buried in the mud and therefore has a reputation for being secretive. While they prefer fens, highly acidic wetlands and areas of soft, deep mud are considered suitable habitat. Several wetland complexes are adjacent to, but not within, the proposed areas of disturbance for the project. Two wetland complexes will be directly impacted as a result of the project. Field delineated Wetlands K and L, identified as correspondent to NYSDEC Mapped wetland AS-20, were emergent in nature but did not contain the deep mucky soils required by this species or microtopographic relief for basking. Additionally, a large patch of common reed (*Phragmites australis*) was noted as dominant which due to plant density prohibits basking. The other field delineated wetland to be impacted, identified as Wetland O, was also emergent but shaded over by the upland tree canopy, lacking the necessary sunlight and microtopographic relief for basking. Additionally, the soils were restricted at 12 inches with the presence of ballast. No impacts are expected to other wetlands delineated within the corridor. Therefore, a determination of No Effect is recommended for this threatened species.

Bald Eagle

Bald eagles prefer habitat along large bodies of water and shoreline area. The project corridor is located within close proximity to the Ashokan Reservoir. Additionally, a confirmed nest with young was reported by the BBA as well as the New York City Department of Environmental Protection and the NYNHP. It is understood that impacts may occur to this species as a result of construction noises during the nesting season. Therefore, a determination of May Affect, Not Likely to Adversely Affect is recommended for this threatened species. To avoid impact and necessity for a BGEPA permit, it is recommended that construction that will occur within sight or 660 feet of a nest occur during the non-breeding season, from mid-September to December.

Breeding Bird Atlas Species

As described in Table 1, suitable habitat was identified for all species identified by the BBA within the corridor except for the whip poor will and common nighthawk. Both species rely on an open understory and/or clearings for nesting habitat. The corridor was largely grown up with a shrubby understory and a determination of No Effect is recommended for these species due to lack of suitable habitat.

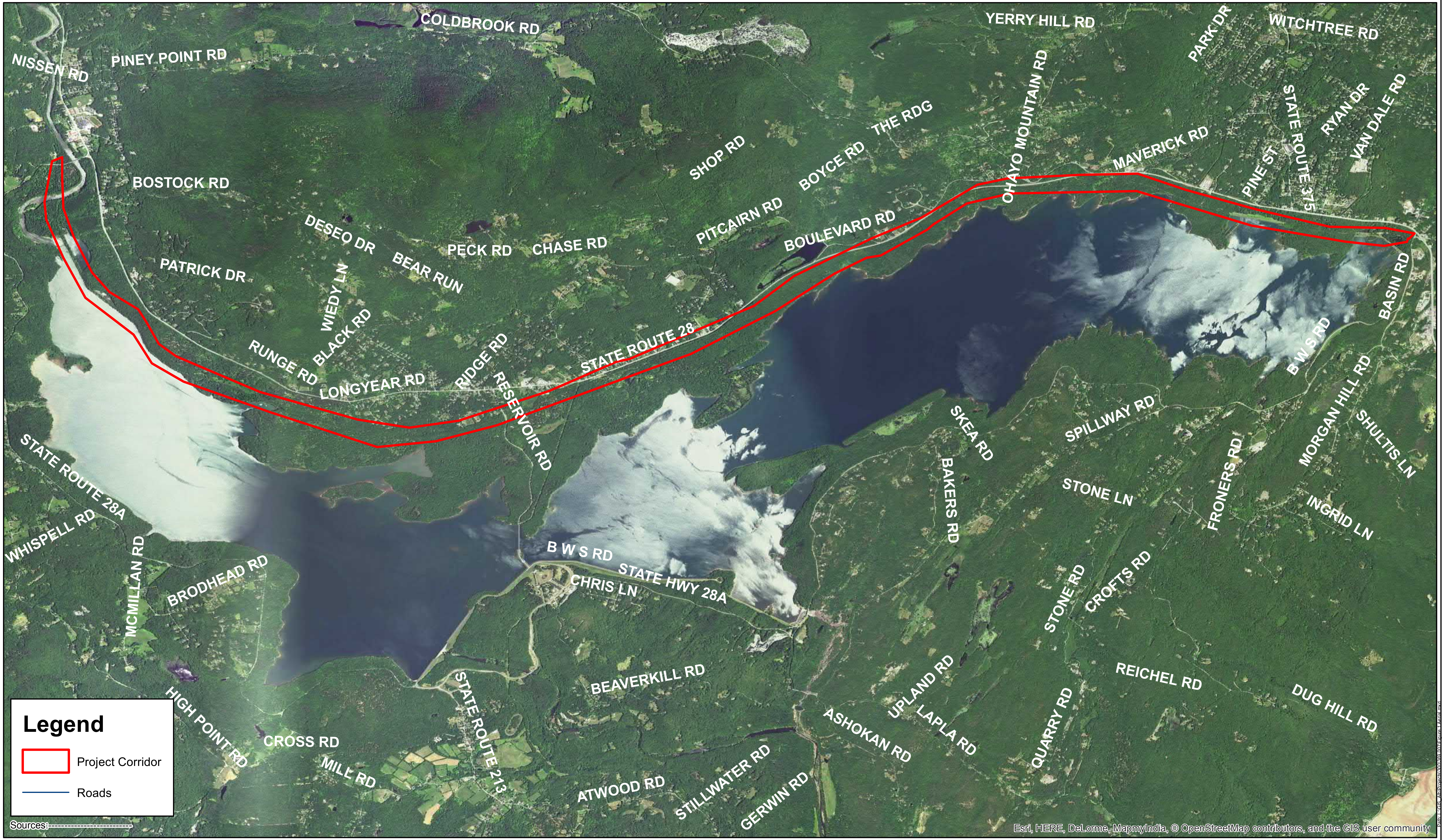
The remaining species may be impacted by construction noise and disturbance. However, this will be temporary in nature and will not affect the habitat quality long term. A May Affect, Not Likely to Adversely Affect determination is recommended for these species.

In addition, no observations of other protected species, unique plant assemblages, or significant natural communities were noted within or adjacent to the project limits. A Species Conclusion Table is included as Attachment G to summarize the results and determinations of this assessment.

CIS/
Attachments

Figure 1

Aerial Project Corridor Map



Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

N S E W

1 inch = 4,250 feet

Ulster County

Ashokan Rail Trail Aerial Imagery

Ulster County 6/16/2016 New York

Figure
-
Project No.
000.000

Figure 2

Topographic Project Corridor Map

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 4,250 feet

Ulster County

Ashokan Rail Trail Topographic Imagery

Ulster County 6/16/2016 New York

Figure 2

Project No. 369.007

Attachment A

U.S. Fish and Wildlife Service
Information for Planning and Consultation (IPaC)
System Results

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: April 25, 2017
Consultation Code: 05E1NY00-2016-SLI-1925
Event Code: 05E1NY00-2017-E-05302
Project Name: Ashokan Rail Trail

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2016-SLI-1925

Event Code: 05E1NY00-2017-E-05302

Project Name: Ashokan Rail Trail

Project Type: TRANSPORTATION

Project Description: Barton & Loguidice, D.P.C. (B&L) has been retained by Ulster County for engineering design services for the proposed Ashokan Rail Trail. The proposed action includes the creation of an 11.5 mile recreational trail corridor on a former rail line north of the Ashokan Reservoir. The project includes repurposing the existing ballast, removal of rail ties, creation of trailheads, and maintenance to existing culvert structures.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.983830714078586N74.26007196592603W

Counties: Ulster, NY

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Indiana Bat *(Myotis sodalis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *(Myotis septentrionalis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle *(Clemmys muhlenbergii)* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

There are no critical habitats within your project area.

Attachment B

Natural Heritage Program (NHP) Response

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

July 26, 2016

Corinne I. Steinmuller
Barton & Loguidice, D.P.C.
10 Airline Drive, Suite 200
Albany, NY 12205

Re: Ashokan Rail Trail (File: 369.007.001)
Town/City: Hurley, Olive. County: Ulster.

Dear Corinne Steinmuller:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur, or may occur, on your site or in the immediate vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

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The following state-listed animals have been documented at your project site, or in its vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 3 Office at dep.r3@dec.ny.gov, (845) 256-3054. For information about potential impacts of your project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Region 3 Wildlife staff at Wildlife.R3@dec.ny.gov, (845) 256-3098.

The following species have been documented at your project site, or within 1 mile of the project site. Individual animals may travel 1 mile from documented locations.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	FEDERAL LISTING	
Birds				
Bald Eagle	*Haliaeetus leucocephalus*	Threatened		1715, 14038, 10989

Breeding -- Breeding Bald Eagles are using an area through which the project site is proposed, and several Bald Eagle nests have been documented near the proposed project site, including one nest within 400 feet of the proposed project site.

The following species have been documented within 250 feet of the project site. Individual animals may travel 2.5 miles from documented locations.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	FEDERAL LISTING	
Mammals				
Indiana Bat	*Myotis sodalis*	Endangered	Endangered	11652

Maternity colony

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare plants, rare animals, and significant natural communities have been documented in the vicinity of your project site.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Wetland/Aquatic Communities			
Vernal Pool			High-quality Occurrence of Uncommon Community Type

Bluestone, 0.5 mi east of the project site: This is a moderate-size vernal pool complex in good condtion within a large natural landscape in very good condition. 13052

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

Attachment C

Project Corridor Photographs

Photo 1. Typical forested section adjacent to corridor.

Photo 2. Corridor looking west.

Photo 3. Corridor looking south.

Photo 4. Ashokan Reservoir, looking south.

Photo 5. Bank of Reservoir immediately south of corridor.

Photo 6. Corridor looking north to causeway.

Photo 7. Various tracks in mud at causeway; toe of slope from corridor.

Photo 8. View downslope looking north of corridor.

Photo 9. View looking west at proposed Espopus crossing. “Boiceville Trestle” destroyed by Tropical Storms Irene and Lee.

Photo 10. Wetland resource north of corridor, just east of Espopus crossing. Outside of ROW/proposed work.

Photo 11. Looking southeast from corridor at Reservoir.

Photo 12. Wetland K/L (NYSDEC AS-20), to be impacted.

Photo 13. Wetland K/L to be impacted. Corridor continues straight through (see people). Note large Phragmites patch on right hand side.

Photo 14. Wetland O, to be impacted. Note heavy canopy.

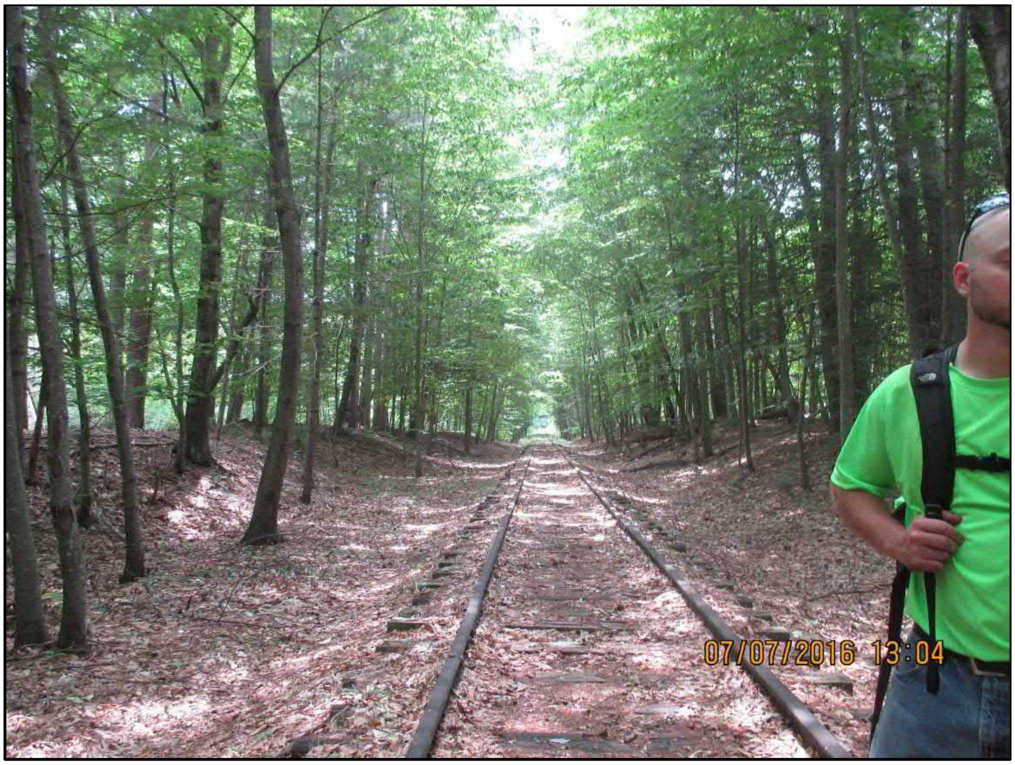


Photo 15. Corridor on western side of Espopus, looking east.

Photo 16. Patch of knotweed on western bank of Esopus at crossing.

Photo 17. Existing access road, to receive a layer of stone dust.

Photo 18. Existing access road, to receive a layer of stone dust.

Photo 19. Potential access site, looking toward NYS Route 28.

Photo 20. Potential access site, looking toward rail.

Photo 21. Former access road to be improved.

Photo 22. Former access road to be improved.

Photo 23. Potential business access site (Hotel Dylan).

Photo 24. Potential business access site (Hotel Dylan).

Photo 25. Potential business access site (Hotel Dylan).

Attachment D

2000-2005 New York State Breeding Bird Atlas Survey Results

List of Species Breeding in Atlas Block 5764A				
Common Name	**Scientific Name**	**Behavior Code**	**Date**	**NY Legal Status**
Canada Goose	*Branta canadensis*	FL	6/30/2003	Game Species
Wood Duck	*Aix sponsa*	FL	7/12/2003	Game Species
Mallard	*Anas platyrhynchos*	FL	6/17/2004	Game Species
Ruffed Grouse	*Bonasa umbellus*	X1	7/12/2003	Game Species
Wild Turkey	*Meleagris gallopavo*	FL	8/9/2002	Game Species
Great Blue Heron	*Ardea herodias*	NY	7/7/2002	Protected
Green Heron	*Butorides virescens*	NY	6/17/2004	Protected
Turkey Vulture	*Cathartes aura*	NY	6/30/2004	Protected
Osprey	*Pandion haliaetus*	X1	//2004	Protected-Special Concern
Red-shouldered Hawk	*Buteo lineatus*	X1	7/5/2002	Protected-Special Concern
Broad-winged Hawk	*Buteo platypterus*	X1	6/30/2003	Protected
Red-tailed Hawk	*Buteo jamaicensis*	FL	6/17/2004	Protected
Killdeer	*Charadrius vociferus*	NE	6/3/2003	Protected
Spotted Sandpiper	*Actitis macularius*	X1	6/30/2003	Protected
American Woodcock	*Scolopax minor*	D2	4/28/2003	Game Species
Mourning Dove	*Zenaida macroura*	FL	6/30/2003	Protected
Yellow-billed Cuckoo	*Coccyzus americanus*	S2	//2004	Protected
Black-billed Cuckoo	*Coccyzus erythropthalmus*	T2	8/15/2003	Protected
Great Horned Owl	*Bubo virginianus*	X1	6/26/2003	Protected
Chimney Swift	*Chaetura pelagica*	P2	6/30/2003	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	P2	6/17/2004	Protected
Belted Kingfisher	*Megaceryle alcyon*	P2	7/5/2002	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	FL	6/17/2004	Protected
Downy Woodpecker	*Picoides pubescens*	B2	6/17/2004	Protected

Hairy Woodpecker	*Picoides villosus*	X1	7/5/2002	Protected
Northern Flicker	*Colaptes auratus*	FY	7/3/2002	Protected
Pileated Woodpecker	*Dryocopus pileatus*	B2	4/28/2003	Protected
Eastern Wood-Pewee	*Contopus virens*	D2	8/9/2002	Protected
Acadian Flycatcher	*Empidonax virescens*	P2	6/3/2003	Protected
Alder Flycatcher	*Empidonax alnorum*	X1	8/9/2002	Protected
Willow Flycatcher	*Empidonax traillii*	X1	8/15/2003	Protected
Least Flycatcher	*Empidonax minimus*	ON	6/30/2003	Protected
Eastern Phoebe	*Sayornis phoebe*	D2	8/9/2002	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	D2	6/17/2004	Protected
Eastern Kingbird	*Tyrannus tyrannus*	FY	6/30/2003	Protected
Yellow-throated Vireo	*Vireo flavifrons*	S2	//2004	Protected
Blue-headed Vireo	*Vireo solitarius*	X1	7/5/2002	Protected
Warbling Vireo	*Vireo gilvus*	T2	6/30/2003	Protected
Red-eyed Vireo	*Vireo olivaceus*	T2	6/3/2003	Protected
Blue Jay	*Cyanocitta cristata*	FL	7/8/2003	Protected
American Crow	*Corvus brachyrhynchos*	FL	7/12/2003	Game Species
Tree Swallow	*Tachycineta bicolor*	P2	6/17/2004	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	FL	7/12/2003	Protected
Bank Swallow	*Riparia riparia*	NY	7/12/2003	Protected
Black-capped Chickadee	*Poecile atricapillus*	FY	7/12/2003	Protected
Tufted Titmouse	*Baeolophus bicolor*	FY	6/3/2003	Protected
White-breasted Nuthatch	*Sitta carolinensis*	S2	7/7/2002	Protected
Carolina Wren	*Thryothorus ludovicianus*	S2	6/17/2004	Protected
House Wren	*Troglodytes aedon*	NY	6/17/2004	Protected
Winter Wren	*Troglodytes troglodytes*	X1	6/26/2003	Protected

Blue-gray Gnatcatcher	*Polioptila caerulea*	FL	8/15/2003	Protected
Hermit Thrush	*Catharus guttatus*	X1	7/12/2003	Protected
Wood Thrush	*Hylocichla mustelina*	D2	7/3/2002	Protected
American Robin	*Turdus migratorius*	FY	6/26/2003	Protected
Gray Catbird	*Dumetella carolinensis*	FY	7/3/2002	Protected
Northern Mockingbird	*Mimus polyglottos*	B2	6/17/2004	Protected
Brown Thrasher	*Toxostoma rufum*	X1	7/12/2003	Protected
European Starling	*Sturnus vulgaris*	FL	6/17/2004	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	FL	7/3/2002	Protected
Yellow Warbler	*Dendroica petechia*	T2	6/17/2004	Protected
Black-throated Green Warbler	*Dendroica virens*	S2	6/26/2003	Protected
Pine Warbler	*Dendroica pinus*	S2	//2004	Protected
Prairie Warbler	*Dendroica discolor*	FL	7/8/2003	Protected
Black-and-white Warbler	*Mniotilta varia*	S2	7/7/2002	Protected
American Redstart	*Setophaga ruticilla*	P2	6/3/2003	Protected
Worm-eating Warbler	*Helmitheros vermivorum*	FL	7/5/2002	Protected
Ovenbird	*Seiurus aurocapilla*	FL	6/26/2003	Protected
Louisiana Waterthrush	*Seiurus motacilla*	X1	6/3/2003	Protected
Common Yellowthroat	*Geothlypis trichas*	FY	7/3/2002	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	FL	8/15/2003	Protected
Chipping Sparrow	*Spizella passerina*	FY	7/12/2003	Protected
Clay-colored Sparrow	*Spizella pallida*	FL	7/12/2003	Protected
Song Sparrow	*Melospiza melodia*	FY	6/17/2004	Protected
Scarlet Tanager	*Piranga olivacea*	T2	7/8/2003	Protected
Northern Cardinal	*Cardinalis cardinalis*	FL	7/12/2003	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	T2	7/3/2002	Protected

Indigo Bunting	*Passerina cyanea*	FY	7/12/2003	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	FL	7/12/2003	Protected
Common Grackle	*Quiscalus quiscula*	FL	6/17/2004	Protected
Brown-headed Cowbird	*Molothrus ater*	D2	6/26/2003	Protected
Baltimore Oriole	*Icterus galbula*	FL	7/5/2002	Protected
Purple Finch	*Carpodacus purpureus*	X1	6/30/2003	Protected
House Finch	*Carpodacus mexicanus*	FL	7/12/2003	Protected
American Goldfinch	*Spinus tristis*	ON	7/31/2003	Protected
House Sparrow	*Passer domesticus*	ON	7/8/2003	Unprotected

Current Date: 6/22/2016

List of Species Breeding in Atlas Block 5664B

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Canada Goose	*Branta canadensis*	FL	6/20/2002	Game Species
Wood Duck	*Aix sponsa*	FL	//2003	Game Species
American Black Duck	*Anas rubripes*	X1	6/20/2002	Game Species
Mallard	*Anas platyrhynchos*	FL	7/10/2002	Game Species
Common Merganser	*Mergus merganser*	P2	//2003	Game Species
Ruffed Grouse	*Bonasa umbellus*	FL	6/10/2002	Game Species
Wild Turkey	*Meleagris gallopavo*	FL	7/22/2002	Game Species
American Bittern	*Botaurus lentiginosus*	P2	8/15/2003	Protected-Special Concern
Great Blue Heron	*Ardea herodias*	T2	5/15/2004	Protected
Green Heron	*Butorides virescens*	S2	//2003	Protected
Turkey Vulture	*Cathartes aura*	X1	6/10/2002	Protected
Osprey	*Pandion haliaetus*	X1	6/7/2003	Protected-Special Concern
Bald Eagle	*Haliaeetus*	T2	7/21/2003	Threatened

	leucocephalus			
Sharp-shinned Hawk	*Accipiter striatus*	T2	7/16/2003	Protected-Special Concern
Red-shouldered Hawk	*Buteo lineatus*	D2	3/24/2002	Protected-Special Concern
Broad-winged Hawk	*Buteo platypterus*	P2	4/11/2002	Protected
Red-tailed Hawk	*Buteo jamaicensis*	D2	5/15/2003	Protected
American Kestrel	*Falco sparverius*	X1	5/31/2003	Protected
Virginia Rail	*Rallus limicola*	FL	7/13/2003	Game Species
Killdeer	*Charadrius vociferus*	T2	4/27/2002	Protected
Spotted Sandpiper	*Actitis macularius*	S2	//2003	Protected
American Woodcock	*Scolopax minor*	D2	3/17/2003	Game Species
Mourning Dove	*Zenaida macroura*	B2	4/26/2004	Protected
Yellow-billed Cuckoo	*Coccyzus americanus*	S2	6/10/2002	Protected
Eastern Screech-Owl	*Megascops asio*	X1	4/2/2003	Protected
Great Horned Owl	*Bubo virginianus*	S2	1/20/2002	Protected
Barred Owl	*Strix varia*	FL	8/9/2004	Protected
Common Nighthawk	*Chordeiles minor*	X1	5/23/2003	Protected-Special Concern
Whip-poor-will	*Caprimulgus vociferus*	D2	5/4/2002	Protected-Special Concern
Chimney Swift	*Chaetura pelagica*	B2	5/24/2003	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	ON	//2002	Protected
Belted Kingfisher	*Megaceryle alcyon*	P2	//2002	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	B2	4/27/2002	Protected
Yellow-bellied Sapsucker	*Sphyrapicus varius*	X1	6/8/2001	Protected
Downy Woodpecker	*Picoides pubescens*	P2	//2003	Protected
Hairy Woodpecker	*Picoides villosus*	ON	4/26/2004	Protected
Northern Flicker	*Colaptes auratus*	T2	5/10/2003	Protected
Pileated Woodpecker	*Dryocopus pileatus*	N2	4/29/2002	Protected

Eastern Wood-Pewee	*Contopus virens*	T2	5/24/2003	Protected
Least Flycatcher	*Empidonax minimus*	X1	6/20/2002	Protected
Eastern Phoebe	*Sayornis phoebe*	NY	6/10/2002	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	P2	5/1/2002	Protected
Eastern Kingbird	*Tyrannus tyrannus*	P2	6/10/2002	Protected
Yellow-throated Vireo	*Vireo flavifrons*	X1	6/8/2001	Protected
Blue-headed Vireo	*Vireo solitarius*	X1	6/8/2001	Protected
Warbling Vireo	*Vireo gilvus*	X1	//2003	Protected
Red-eyed Vireo	*Vireo olivaceus*	S2	//2003	Protected
Blue Jay	*Cyanocitta cristata*	FL	6/30/2004	Protected
American Crow	*Corvus brachyrhynchos*	N2	4/29/2002	Game Species
Fish Crow	*Corvus ossifragus*	X1	//2003	Protected
Common Raven	*Corvus corax*	FL	6/20/2002	Protected
Tree Swallow	*Tachycineta bicolor*	NE	6/10/2002	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	X1	//2003	Protected
Cliff Swallow	*Petrochelidon pyrrhonota*	X1	//2003	Protected
Barn Swallow	*Hirundo rustica*	P2	6/10/2002	Protected
Black-capped Chickadee	*Poecile atricapillus*	ON	//2002	Protected
Tufted Titmouse	*Baeolophus bicolor*	T2	3/24/2002	Protected
Red-breasted Nuthatch	*Sitta canadensis*	P2	5/15/2003	Protected
White-breasted Nuthatch	*Sitta carolinensis*	P2	4/26/2004	Protected
Brown Creeper	*Certhia americana*	B2	5/1/2002	Protected
Carolina Wren	*Thryothorus ludovicianus*	ON	7/27/2004	Protected
House Wren	*Troglodytes aedon*	ON	//2002	Protected
Winter Wren	*Troglodytes troglodytes*	S2	5/1/2002	Protected

Blue-gray Gnatcatcher	*Polioptila caerulea*	FY	7/20/2002	Protected
Eastern Bluebird	*Sialia sialis*	FL	7/9/2004	Protected
Veery	*Catharus fuscescens*	S2	//2002	Protected
Hermit Thrush	*Catharus guttatus*	S2	4/29/2002	Protected
Wood Thrush	*Hylocichla mustelina*	T2	5/1/2002	Protected
American Robin	*Turdus migratorius*	FY	6/10/2002	Protected
Gray Catbird	*Dumetella carolinensis*	ON	//2002	Protected
Northern Mockingbird	*Mimus polyglottos*	T2	4/29/2002	Protected
European Starling	*Sturnus vulgaris*	NY	5/15/2003	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	S2	//2003	Protected
Yellow-rumped Warbler	*Dendroica coronata*	X1	6/8/2001	Protected
Pine Warbler	*Dendroica pinus*	T2	7/28/2001	Protected
Black-and-white Warbler	*Mniotilta varia*	X1	6/8/2001	Protected
American Redstart	*Setophaga ruticilla*	T2	5/1/2002	Protected
Worm-eating Warbler	*Helmitheros vermivorum*	P2	6/10/2002	Protected
Ovenbird	*Seiurus aurocapilla*	B2	5/15/2004	Protected
Louisiana Waterthrush	*Seiurus motacilla*	X1	//2003	Protected
Kentucky Warbler	*Oporornis formosus*	B2	7/12/2003	Protected
Common Yellowthroat	*Geothlypis trichas*	ON	6/10/2002	Protected
Canada Warbler	*Wilsonia canadensis*	X1	6/8/2001	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	T2	7/10/2002	Protected
Chipping Sparrow	*Spizella passerina*	FY	6/10/2002	Protected
Field Sparrow	*Spizella pusilla*	ON	6/10/2002	Protected
Song Sparrow	*Melospiza melodia*	S2	3/24/2002	Protected
White-throated Sparrow	*Zonotrichia albicollis*	X1	//2003	Protected
Scarlet Tanager	*Piranga olivacea*	ON	7/10/2002	Protected

Northern Cardinal	*Cardinalis cardinalis*	B2	5/30/2003	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	T2	6/19/2004	Protected
Indigo Bunting	*Passerina cyanea*	D2	7/14/2002	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	ON	5/15/2004	Protected
Common Grackle	*Quiscalus quiscula*	X1	5/25/2003	Protected
Brown-headed Cowbird	*Molothrus ater*	D2	5/1/2002	Protected
Orchard Oriole	*Icterus spurius*	T2	5/27/2004	Protected
Baltimore Oriole	*Icterus galbula*	FS	6/10/2002	Protected
Purple Finch	*Carpodacus purpureus*	S2	4/29/2002	Protected
House Finch	*Carpodacus mexicanus*	D2	6/16/2003	Protected
American Goldfinch	*Spinus tristis*	FL	6/22/2003	Protected
House Sparrow	*Passer domesticus*	ON	5/24/2003	Unprotected

Current Date: 6/22/2016

List of Species Breeding in Atlas Block 5665D

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Canada Goose	*Branta canadensis*	FL	6/3/2001	Game Species
Mallard	*Anas platyrhynchos*	FL	6/5/2001	Game Species
Wild Turkey	*Meleagris gallopavo*	FL	7/19/2001	Game Species
Great Blue Heron	*Ardea herodias*	FY	6/13/2001	Protected
Red-shouldered Hawk	*Buteo lineatus*	FY	7/3/2001	Protected-Special Concern
Red-tailed Hawk	*Buteo jamaicensis*	N2	7/15/2001	Protected
American Kestrel	*Falco sparverius*	X1	6/25/2001	Protected
Rock Pigeon	*Columba livia*	ON	7/2/2001	Unprotected
Mourning Dove	*Zenaida macroura*	P2	7/19/2001	Protected
Eastern Screech-	*Megascops asio*	X1	5/20/2001	Protected

Owl				
Great Horned Owl	*Bubo virginianus*	S2	5/30/2001	Protected
Barred Owl	*Strix varia*	X1	5/20/2001	Protected
Chimney Swift	*Chaetura pelagica*	FL	6/25/2001	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	FY	7/22/2001	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	FY	7/22/2001	Protected
Yellow-bellied Sapsucker	*Sphyrapicus varius*	FY	6/5/2001	Protected
Downy Woodpecker	*Picoides pubescens*	FL	6/12/2001	Protected
Hairy Woodpecker	*Picoides villosus*	FL	7/20/2001	Protected
Northern Flicker	*Colaptes auratus*	N2	6/25/2001	Protected
Pileated Woodpecker	*Dryocopus pileatus*	S2	7/2/2001	Protected
Eastern Wood-Pewee	*Contopus virens*	X1	6/25/2001	Protected
Eastern Phoebe	*Sayornis phoebe*	NE	7/3/2001	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	NY	7/3/2001	Protected
Eastern Kingbird	*Tyrannus tyrannus*	S2	6/25/2001	Protected
Red-eyed Vireo	*Vireo olivaceus*	FL	7/15/2001	Protected
Blue Jay	*Cyanocitta cristata*	FY	7/15/2001	Protected
American Crow	*Corvus brachyrhynchos*	FL	7/28/2001	Game Species
Tree Swallow	*Tachycineta bicolor*	FY	6/5/2001	Protected
Cliff Swallow	*Petrochelidon pyrrhonota*	FY	7/2/2001	Protected
Barn Swallow	*Hirundo rustica*	FL	7/2/2001	Protected
Black-capped Chickadee	*Poecile atricapillus*	FY	7/20/2001	Protected
Tufted Titmouse	*Baeolophus bicolor*	NY	6/5/2001	Protected
Red-breasted Nuthatch	*Sitta canadensis*	ON	6/21/2001	Protected

White-breasted Nuthatch	*Sitta carolinensis*	FY	6/25/2001	Protected
Carolina Wren	*Thryothorus ludovicianus*	FY	6/21/2001	Protected
House Wren	*Troglodytes aedon*	NE	6/18/2001	Protected
Eastern Bluebird	*Sialia sialis*	FL	6/5/2001	Protected
Veery	*Catharus fuscescens*	X1	6/25/2001	Protected
Wood Thrush	*Hylocichla mustelina*	NY	6/25/2001	Protected
American Robin	*Turdus migratorius*	FL	5/30/2001	Protected
Gray Catbird	*Dumetella carolinensis*	ON	6/16/2001	Protected
Northern Mockingbird	*Mimus polyglottos*	S2	5/30/2001	Protected
Brown Thrasher	*Toxostoma rufum*	FL	7/19/2001	Protected
European Starling	*Sturnus vulgaris*	FL	6/10/2001	Unprotected
Yellow Warbler	*Dendroica petechia*	N2	6/25/2001	Protected
American Redstart	*Setophaga ruticilla*	S2	6/28/2001	Protected
Ovenbird	*Seiurus aurocapilla*	S2	6/25/2001	Protected
Common Yellowthroat	*Geothlypis trichas*	FY	6/25/2001	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	S2	6/28/2001	Protected
Chipping Sparrow	*Spizella passerina*	NE	7/15/2001	Protected
Field Sparrow	*Spizella pusilla*	FY	6/28/2001	Protected
Song Sparrow	*Melospiza melodia*	ON	6/28/2001	Protected
Dark-eyed Junco	*Junco hyemalis*	NE	6/28/2001	Protected
Scarlet Tanager	*Piranga olivacea*	S2	6/28/2001	Protected
Northern Cardinal	*Cardinalis cardinalis*	FL	7/19/2001	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	P2	7/22/2001	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	FY	7/19/2001	Protected
Common Grackle	*Quiscalus quiscula*	FL	7/15/2001	Protected
Brown-headed	*Molothrus ater*	FL	7/15/2001	Protected

Cowbird				
Baltimore Oriole	*Icterus galbula*	S2	6/15/2001	Protected
Purple Finch	*Carpodacus purpureus*	X1	6/5/2001	Protected
House Finch	*Carpodacus mexicanus*	FY	7/19/2001	Protected
American Goldfinch	*Spinus tristis*	FY	8/25/2001	Protected
House Sparrow	*Passer domesticus*	ON	7/19/2001	Unprotected

Current Date: 6/22/2016

List of Species Breeding in Atlas Block 5664A

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Canada Goose	*Branta canadensis*	FL	6/2/2000	Game Species
Wood Duck	*Aix sponsa*	FL	6/2/2000	Game Species
American Black Duck	*Anas rubripes*	X1	//2002	Game Species
Mallard	*Anas platyrhynchos*	FL	6/2/2000	Game Species
Common Merganser	*Mergus merganser*	FL	6/2/2000	Game Species
Wild Turkey	*Meleagris gallopavo*	X1	6/2/2000	Game Species
Great Blue Heron	*Ardea herodias*	X1	6/2/2000	Protected
Green Heron	*Butorides virescens*	FL	6/2/2000	Protected
Bald Eagle	*Haliaeetus leucocephalus*	S2	//2002	Threatened
Spotted Sandpiper	*Actitis macularius*	X1	//2002	Protected
Mourning Dove	*Zenaida macroura*	S2	//2002	Protected
Barred Owl	*Strix varia*	X1	//2004	Protected
Whip-poor-will	*Caprimulgus vociferus*	S2	//2004	Protected-Special Concern
Chimney Swift	*Chaetura pelagica*	X1	//2004	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	X1	//2002	Protected
Belted Kingfisher	*Megaceryle alcyon*	X1	6/2/2000	Protected

Red-bellied Woodpecker	*Melanerpes carolinus*	S2	//2002	Protected
Yellow-bellied Sapsucker	*Sphyrapicus varius*	X1	6/2/2000	Protected
Downy Woodpecker	*Picoides pubescens*	S2	//2004	Protected
Hairy Woodpecker	*Picoides villosus*	X1	5/29/2001	Protected
Northern Flicker	*Colaptes auratus*	P2	6/2/2000	Protected
Pileated Woodpecker	*Dryocopus pileatus*	S2	//2002	Protected
Eastern Wood-Pewee	*Contopus virens*	S2	//2002	Protected
Least Flycatcher	*Empidonax minimus*	S2	//2004	Protected
Eastern Phoebe	*Sayornis phoebe*	X1	5/29/2001	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	S2	//2002	Protected
Eastern Kingbird	*Tyrannus tyrannus*	X1	//2004	Protected
Blue-headed Vireo	*Vireo solitarius*	X1	5/29/2001	Protected
Warbling Vireo	*Vireo gilvus*	S2	//2004	Protected
Red-eyed Vireo	*Vireo olivaceus*	S2	//2002	Protected
Blue Jay	*Cyanocitta cristata*	X1	6/2/2000	Protected
American Crow	*Corvus brachyrhynchos*	X1	6/2/2000	Game Species
Fish Crow	*Corvus ossifragus*	X1	//2004	Protected
Tree Swallow	*Tachycineta bicolor*	FL	6/27/2003	Protected
Cliff Swallow	*Petrochelidon pyrrhonota*	X1	//2002	Protected
Black-capped Chickadee	*Poecile atricapillus*	S2	//2002	Protected
Tufted Titmouse	*Baeolophus bicolor*	S2	//2002	Protected
White-breasted Nuthatch	*Sitta carolinensis*	S2	//2002	Protected
Brown Creeper	*Certhia americana*	S2	//2002	Protected
House Wren	*Troglodytes aedon*	X1	6/2/2000	Protected
Blue-gray Gnatcatcher	*Polioptila caerulea*	X1	//2004	Protected
Veery	*Catharus*	S2	//2002	Protected

	fuscescens			
Wood Thrush	*Hylocichla mustelina*	S2	//2002	Protected
American Robin	*Turdus migratorius*	FY	//2004	Protected
Gray Catbird	*Dumetella carolinensis*	X1	6/2/2000	Protected
Cedar Waxwing	*Bombycilla cedrorum*	S2	//2002	Protected
Yellow Warbler	*Dendroica petechia*	X1	6/2/2000	Protected
Yellow-rumped Warbler	*Dendroica coronata*	X1	6/2/2000	Protected
Black-throated Green Warbler	*Dendroica virens*	X1	//2002	Protected
Blackburnian Warbler	*Dendroica fusca*	X1	//2002	Protected
Black-and-white Warbler	*Mniotilta varia*	X1	//2004	Protected
American Redstart	*Setophaga ruticilla*	S2	//2004	Protected
Worm-eating Warbler	*Helmitheros vermivorum*	S2	//2002	Protected
Ovenbird	*Seiurus aurocapilla*	S2	//2002	Protected
Louisiana Waterthrush	*Seiurus motacilla*	X1	6/27/2003	Protected
Common Yellowthroat	*Geothlypis trichas*	X1	6/2/2000	Protected
Chipping Sparrow	*Spizella passerina*	X1	//2002	Protected
Song Sparrow	*Melospiza melodia*	NE	6/2/2000	Protected
Scarlet Tanager	*Piranga olivacea*	S2	//2002	Protected
Northern Cardinal	*Cardinalis cardinalis*	X1	//2002	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	X1	6/2/2000	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	P2	6/2/2000	Protected
Common Grackle	*Quiscalus quiscula*	FY	//2004	Protected
Brown-headed Cowbird	*Molothrus ater*	X1	6/2/2000	Protected
Baltimore Oriole	*Icterus galbula*	S2	//2004	Protected

American Goldfinch	*Spinus tristis*	X1	//2002	Protected

Current Date: 6/22/2016

List of Species Breeding in Atlas Block 5564B				
Common Name	**Scientific Name**	**Behavior Code**	**Date**	**NY Legal Status**
Canada Goose	*Branta canadensis*	FL	//2004	Game Species
Mallard	*Anas platyrhynchos*	X1	6/15/2004	Game Species
Common Merganser	*Mergus merganser*	FL	6/15/2001	Game Species
Wild Turkey	*Meleagris gallopavo*	FL	6/15/2004	Game Species
Great Blue Heron	*Ardea herodias*	X1	5/6/2000	Protected
Green Heron	*Butorides virescens*	X1	6/24/2004	Protected
Turkey Vulture	*Cathartes aura*	X1	6/24/2004	Protected
Bald Eagle	*Haliaeetus leucocephalus*	NY	//2002	Threatened
Sharp-shinned Hawk	*Accipiter striatus*	X1	//2004	Protected-Special Concern
Red-shouldered Hawk	*Buteo lineatus*	X1	6/15/2004	Protected-Special Concern
Broad-winged Hawk	*Buteo platypterus*	FL	7/3/2005	Protected
Red-tailed Hawk	*Buteo jamaicensis*	FL	7/2/2004	Protected
American Kestrel	*Falco sparverius*	X1	5/6/2000	Protected
Killdeer	*Charadrius vociferus*	X1	6/21/2005	Protected
Spotted Sandpiper	*Actitis macularius*	X1	7/5/2002	Protected
Rock Pigeon	*Columba livia*	X1	7/5/2002	Unprotected
Mourning Dove	*Zenaida macroura*	FL	6/21/2005	Protected
Yellow-billed Cuckoo	*Coccyzus americanus*	X1	7/3/2005	Protected
Black-billed Cuckoo	*Coccyzus erythropthalmus*	X1	6/15/2004	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	X1	6/24/2004	Protected

Belted Kingfisher	*Megaceryle alcyon*	X1	//2004	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	FY	6/15/2001	Protected
Yellow-bellied Sapsucker	*Sphyrapicus varius*	NY	7/3/2005	Protected
Downy Woodpecker	*Picoides pubescens*	X1	5/6/2000	Protected
Hairy Woodpecker	*Picoides villosus*	FL	6/24/2004	Protected
Northern Flicker	*Colaptes auratus*	FL	7/18/2004	Protected
Pileated Woodpecker	*Dryocopus pileatus*	X1	5/6/2000	Protected
Eastern Wood-Pewee	*Contopus virens*	S2	7/2/2004	Protected
Least Flycatcher	*Empidonax minimus*	S2	6/21/2005	Protected
Eastern Phoebe	*Sayornis phoebe*	UN	6/15/2004	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	T2	7/18/2004	Protected
Eastern Kingbird	*Tyrannus tyrannus*	DD	6/24/2004	Protected
Yellow-throated Vireo	*Vireo flavifrons*	X1	5/6/2000	Protected
Blue-headed Vireo	*Vireo solitarius*	P2	5/6/2000	Protected
Warbling Vireo	*Vireo gilvus*	DD	6/21/2005	Protected
Red-eyed Vireo	*Vireo olivaceus*	FL	7/3/2005	Protected
Blue Jay	*Cyanocitta cristata*	FY	6/20/2004	Protected
American Crow	*Corvus brachyrhynchos*	FL	6/15/2004	Game Species
Common Raven	*Corvus corax*	X1	5/6/2000	Protected
Tree Swallow	*Tachycineta bicolor*	FL	6/15/2004	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	X1	6/21/2005	Protected
Cliff Swallow	*Petrochelidon pyrrhonota*	ON	6/21/2005	Protected
Barn Swallow	*Hirundo rustica*	NY	6/15/2004	Protected
Black-capped Chickadee	*Poecile atricapillus*	FL	6/24/2004	Protected
Tufted Titmouse	*Baeolophus bicolor*	FL	6/15/2004	Protected
Red-breasted Nuthatch	*Sitta canadensis*	X1	5/6/2000	Protected

White-breasted Nuthatch	*Sitta carolinensis*	FL	6/20/2004	Protected
Brown Creeper	*Certhia americana*	S2	//2004	Protected
Carolina Wren	*Thryothorus ludovicianus*	D2	7/12/2004	Protected
House Wren	*Troglodytes aedon*	DD	6/21/2005	Protected
Blue-gray Gnatcatcher	*Polioptila caerulea*	X1	7/12/2004	Protected
Eastern Bluebird	*Sialia sialis*	FL	7/18/2004	Protected
Veery	*Catharus fuscescens*	S2	//2004	Protected
Hermit Thrush	*Catharus guttatus*	S2	7/12/2004	Protected
Wood Thrush	*Hylocichla mustelina*	FY	6/21/2005	Protected
American Robin	*Turdus migratorius*	FL	6/15/2004	Protected
Gray Catbird	*Dumetella carolinensis*	FY	6/15/2004	Protected
Brown Thrasher	*Toxostoma rufum*	X1	6/15/2004	Protected
European Starling	*Sturnus vulgaris*	FL	6/15/2004	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	B2	6/15/2004	Protected
Blue-winged Warbler	*Vermivora pinus*	X1	5/6/2000	Protected
Yellow Warbler	*Dendroica petechia*	S2	6/20/2004	Protected
Chestnut-sided Warbler	*Dendroica pensylvanica*	X1	7/12/2004	Protected
Black-throated Blue Warbler	*Dendroica caerulescens*	X1	7/5/2002	Protected
Yellow-rumped Warbler	*Dendroica coronata*	FY	7/3/2005	Protected
Black-throated Green Warbler	*Dendroica virens*	FY	7/2/2004	Protected
Blackburnian Warbler	*Dendroica fusca*	S2	7/12/2004	Protected
Pine Warbler	*Dendroica pinus*	X1	6/15/2001	Protected
Black-and-white Warbler	*Mniotilta varia*	S2	//2004	Protected
American Redstart	*Setophaga ruticilla*	S2	6/24/2004	Protected
Ovenbird	*Seiurus aurocapilla*	T2	7/2/2004	Protected

Northern Waterthrush	*Seiurus noveboracensis*	X1	6/15/2001	Protected
Louisiana Waterthrush	*Seiurus motacilla*	FY	7/3/2005	Protected
Common Yellowthroat	*Geothlypis trichas*	FL	7/18/2004	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	P2	7/18/2004	Protected
Chipping Sparrow	*Spizella passerina*	FL	6/15/2004	Protected
Song Sparrow	*Melospiza melodia*	DD	7/12/2004	Protected
White-throated Sparrow	*Zonotrichia albicollis*	X1	5/6/2000	Protected
Dark-eyed Junco	*Junco hyemalis*	X1	5/6/2000	Protected
Scarlet Tanager	*Piranga olivacea*	S2	6/24/2004	Protected
Northern Cardinal	*Cardinalis cardinalis*	S2	6/24/2004	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	P2	7/18/2004	Protected
Indigo Bunting	*Passerina cyanea*	DD	7/3/2005	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	FL	6/15/2004	Protected
Common Grackle	*Quiscalus quiscula*	FY	6/15/2004	Protected
Brown-headed Cowbird	*Molothrus ater*	FL	7/3/2005	Protected
Baltimore Oriole	*Icterus galbula*	FY	6/21/2005	Protected
Purple Finch	*Carpodacus purpureus*	X1	7/12/2004	Protected
House Finch	*Carpodacus mexicanus*	FL	6/21/2005	Protected
American Goldfinch	*Spinus tristis*	P2	7/12/2004	Protected
House Sparrow	*Passer domesticus*	ON	6/15/2004	Unprotected

Current Date: 6/22/2016

Attachment E

NYS Department of Environmental Conservation (NYSDEC) Nature Explorer Results

USER DEFINED SEARCH RESULTS

Map | Filter | Print Report

Legend

- Major Cities
- Interstates
- Streets
- Natural Communities
- Rare Plants and Animals (Generalized)
- Counties
- Streams and Rivers
  - Stream, River
- Waterbodies - Small

Criteria: Selected Map Area

Refine Search | Export Results | Create PDF Report

Common Name *Scientific Name*	Subgroup	Town Distribution Status	Town Year Last Documented	Protection Status		Conservation Rank	
				State	Federal	State	Global
No Records Found							

Note: Restricted plants and animals have also been documented in one or more of the Towns or Cities in which your user-defined area is located, **but are not listed in these results.** This application does **not** provide information at the level of Town or City on state-listed animals and on other sensitive animals and plants. See a list of the restricted animals and plants documented from the following counties: Ulster. **Any individual plant or animal on this county's restricted list may or may not occur in this particular user-defined area.**

This list only includes records of rare species and significant natural communities from the databases of the NY Natural Heritage Program. This list is not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, or of all significant natural communities. For most areas, comprehensive field surveys have not been conducted, and this list should not be considered a substitute for on-site surveys.

Attachment F

Bat Habitat Assessment Form

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

INDIANA BAT HABITAT ASSESSMENT DATASHEET

Project Name: Ashokan Rail Trail
Date: 6/28-6/29/16, 7/7/16, 5/17/17
Township/Range/Section: Hurley and Olive
Lat Long/UTM/ Zone: Between 42° 0'20.87"N, 74°16'16.63"W and 41°59'5.60"N, 74° 5'13.93"W (NAD 83).
Surveyor: Johanna Duffy, CWB Corinne Steinmuller

Brief Project Description

Ulster County is proposing the construction of an 11.5-mile pedestrian and bicycle trail which will run from Basin Road in the Town of Hurley to NYS Route 28A in the Town of Olive. The proposed action includes the creation of a recreational trail corridor on a former rail line north of the Ashokan Reservoir.

Project Area

	Total Acres	Forest Acres	Open Acres
Project	56	40	16

	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing
Proposed Tree Removal (ac)		9.2	

Vegetation Cover Types

Pre-Project	Post-Project
Forested	Forested

Landscape within 5 mile radius

Flight corridors to other forested areas?

Yes

Describe Adjacent Properties (e.g. forested, grassland, commercial or residencial development, water sources)

Ashokan Reservoir, commercial and residential development

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

Project is on forested public land

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area
Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description
Sample Site No.(s): 1

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral: Multiple	Intermittent: Multiple	Perennial: Multiple	Describe existing condition of water sources: Water is high quality and is used for public drinking
Pools/Ponds (# and size)	Reservoir >8,000 acres	Open and accessible to bats? Yes		
Wetlands (approx. ac.)	Permanent: Multiple	Seasonal: Multiple		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50 ')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81=100%
	0	5	5	
Dominant Species of Mature Trees	red maple, striped maple, shagbark hickory, silver maple, northern red oak, eastern white pine, and American beech			
% Trees w/ Exfoliating Bark		30		
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	50	30	20	
No. of Suitable Snags				

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? Yes

Additional Comments:

Size of trees qualifies them for potential use as roost trees.

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

Attachment G

Species Conclusion Table

Species Conclusions Table Project Name: Ashokan Rail Trail Date: 7/14/16				
Species Name	Potential Habitat Present?	Critical Habitat Present?	ESA/Eagle Act Determination	Notes / Documentation Summary (include full rationale in your report)
Northern long-eared bat *(Myotis septentrionalis) and* Indiana Bat (*Myotis sodalis*)	Yes	No	May effect, not likely to Adversely Affect	Although a small portion of the project area will require removal of trees (2 total) greater than 3 inches DBH, the habitat impact will be minimal. Changes in lighting will also occur as a result of the project, due to increases in mast lighting the proposed project is recommended to have a "May Effect not Likely to Adversely Affect" on these protected bat species.
Bog turtle *(Clemmys muhlenbergii*)	No	No	No Effect	The delineated wetlands to be impacted lacked deep mucky soils, contained common reed, were shaded by upland overstory, and lacked the microtopographic features important to this species.
Bald eagle (*Haliaeetus leucocephalus)*	Yes	No	May Affect, Not Likely to Adversely Affect. No BGEPA permit required.	Suitable habitat and nest with young identified by BBA and NYSDEP. To avoid impact and necessity for a BGEPA permit, it is recommended that construction that will occur within sight or 660 feet of a nest occur during the non-breeding season, from mid-September to December.
Sharp-Shinned Hawk (*Accipiter striatus*)	Yes	No	No Effect	Birds breed in deep forests. In winter, will utilize forest edge and open habitat for hunting.
Osprey (*Pandion haliaetus*)	Yes	No	No Effect	Common around shorelines and waterways. Habitat includes rivers, lakes, reservoirs, lagoons, swamps, and marshes. Nests are usually elevated and within a short distance (12 miles) of an adequate supply of fish.
Red-shouldered hawk (*Buteo lineatus)*	Yes	No	No Effect	Forest birds that prefer an open sub-canopy for hunting. Can be found in suburban areas with mixed forest and housing. Suitable foraging habitat was identified within the corridor. However, impacts will be temporary and limited to noise during construction.
American bittern (*Botaurus lentiginosus)*	Yes	No	No Effect	Shallow, freshwater marshes. Tend to stay hidden among dense vegetation. Suitable habitat was identified immediately adjacent the corridor. However, impacts will be temporary and limited to noise during construction. No direct impacts will occur to suitable wetlands for this species.
Whip-poor-will (*Caprimulgus vociferos*)	No	No	No Effect	Forests with open understory. Found in both deciduous and deciduous pine mix. Nest on forest floor and are strictly nocturnal. No open understory was identified within the project corridor.
Common nighthawk (*Chordeiles minor*)	No	No	No Effect	Nest on bare soil and/or rock in forest clearings, but have also been known to nest on gravel rooftops. No bare soil and/or rock clearings were identified within the project corridor.

Ashokan Rail Trail
Ulster County
Towns of Hurley and Olive

Traffic Impact Study (TIS)

March 2017

Ashokan Rail Trail
Ulster County

Towns of Hurley and Olive
Ulster County, New York

Traffic Impact Study

March 2017

Prepared For:

Ulster County
244 Fair Street
PO Box 1800
Kingston, NY 12402

Prepared By:

Barton & Loguidice, D. P.C.
10 Airline Drive
Suite 200
Albany, NY 12205

Contents

Figures

Appendices

1 Executive Summary

This traffic impact study was performed to determine if there would be any impacts to nearby roads and intersections due to the anticipated traffic generated by the proposed Ashokan Rail Trail project. The proposed trail project includes the construction of an 11.5 mile multi-user trail along the western side of the Ashokan Reservoir on the former D&H rail corridor. The project proposes two trailheads for users to access the trail from NY Route 28 and another trailhead with access from NY Route 28A near Boiceville. Construction is expected to be completed near the end of 2018 for the trail and trailheads along Route 28. The trailhead accessed along Route 28A is expected to be completed in 2020.

Existing and future operations were studied at three intersections along Rout 28 they are: Route 28 and Reservoir Road, Route 28 and Route 375, and Route 28 at Basin Road/Zena Road. A trip generation and trip distribution analysis were completed to determine build out traffic volumes. The trip generation estimates that the project will generate a net of 116 vehicles during the peak hour on a Saturday, which will be distributed using existing traffic patterns between the two Route 28 trailheads. Pass-by trips were not accounted for to remain conservative.

It was determined that impacts to the study intersections were negligible. Each intersection studied will operate, and will continue to operate, at an acceptable level (Level of Service C or above) with minimal additional delay of 1 second or less for the existing and future build out conditions. For the signalized intersections, signal timings were analyzed and it was found that with minor adjustments to the existing signal timings, delay times and traffic operations (Level of Service) can be slightly improved for both intersections and all movements for the future build scenario.

Historical crash data was analyzed at the three study intersections, and within a 0.125 (1/8) mile radius of the proposed driveways. All three intersections on Route 28 had crash rates above the statewide average for their intersection type and control, with the crash types being typical. Rear endings and collisions with animals and fixed objects were the predominant crashes. Traffic generated by this project will not significantly impact intersections, or worsen the severity or number of crashes, therefore, no mitigation is required based on crashes.

Overall, estimated traffic volumes will have negligible impacts to the study area. While mitigation wasn't found to be necessary, adjusted signal timings could improve traffic operations (LOS) for the two intersections whether the project is constructed or not.

2 Introduction & Background

Study Purpose

The purpose of this study is to determine impacts (if any) to nearby intersections related to the Ashokan Rail Trail project and the NYCDEP trailhead projects. The study will investigate potential impacts for the existing conditions and future operations, sight distances at the proposed trailhead entrances, and crash data at existing intersections. The results of this study will discuss the need for mitigation (if any) in the study area due to the proposed projects.

Project Description

Ulster County is proposing the construction of an 11.5-mile multi-user trail on a former rail line north of the Ashokan Reservoir. The proposed trail is located in the Towns of Hurley and Olive, paralleling Route 28 and the Ashokan Reservoir, beginning near Basin Road in the Town of Hurley and extending to NYS Route 28A in Boiceville. The project includes the construction of a multi-use trail, removal of rail and rail ties, creation of trailheads and interpretive areas, construction of bridges, and the repair and maintenance to existing culvert structures.

Three trailheads are proposed to be designed and constructed by the NYCDEP. The Jones Cove Trailhead is located near the Shokan Road and Route 28 intersection, and the eastern trailhead will have an entrance located near the intersection of Williams Lane and Route 28 and is near the Woodstock dike. The western trailhead will be accessed along Route 28A in Boiceville and traffic impacts if any along Route 28A will be determined under another study. Figure 1 shows the proposed trail and trailhead locations.

Study Approach

There are three (3) intersections that may be impacted by the construction of the trail and were further evaluated to determine if there were expected to be any traffic impacts. The study intersections are:

(1) Reservoir Road at NY Route 28
(2) NY Route 375 at NY Route 28
(3) Basin Road at NY Route 28

Existing automatic traffic recorder (ATR) data along Route 28 was used to determine the AM, PM, and Saturday peak hours. ATR data was obtained through the NYSDOT Traffic Data Viewer, which had recent data for spot locations along NY Route 28. Based on the ATR peak hour trends, turning movement counts were obtained by the B&L design team for 2 hour periods in the AM and PM, and for 3 hours on midday Saturday. Future trail use was then estimated and converted into trips. Trips were then distributed amongst existing traffic patterns based on the turning movement counts. A Level of Service (LOS) capacity analysis was then completed for the peak hour scenario that would expect to have the largest impact to the study intersections, or the highest estimated trip volumes combined with the highest traffic volumes. The results of the analysis show that the proposed project will not have a negative impact along NY Route 28 or 28A or the other project area roadways.

N

Figure 1 – Project Location Map

PROJECT LOCATION
Ashokan Rail Trail
Towns of Hurley & Olive
Ulster County, New York

3 Existing Conditions

Access to the proposed trailheads is expected to be through driveways intersecting Route 28. The study will assess the impacts due to the trailheads for the three identified intersections along NY Route 28; Reservoir Road at NY Route 28, NY Route 375 at NY Route 28, and Basin Road at NY Route 28. NY Route 28 is classified as a principal arterial, with a varying posted speed limit within the study area. There are no designated pedestrian or bicycle facilities at the study intersections, or along the NY Route 28 corridor between Route 28A and Basin Road.

Speeds

The (regulatory) posted speed limit along NY Route 28 that intersects Reservoir Road is 45 mph. Count station 860229 from the NYS Traffic Data Viewer, was used to determine existing speeds along NY Route 28. This count station is placed approximately 5,600 feet (1.06 miles) east of the intersection of NY Route 28 and Reservoir Road. From the data at the count station, the 85th percentile speed for eastbound traffic is 51.4 mph, and westbound traffic is 52.9 mph along this section. The 85th percentile speeds were collected from 11/2/2015 through 11/6/2015 by NYSDOT. The average speed for eastbound traffic was 45.2 mph, and the average speed for westbound traffic was 47.0 mph.

Reservoir Road speeds were recorded between 11/2/2015 and 11/6/2015 approximately 600' from the study intersection at NYSDOT count station 860901. The posted speed limit at this location is 35 mph, and the 85th percentile speed for northbound traffic was 41.4 mph, and 44.1 mph for southbound traffic. This ranges 6-9 mph over the posted speed limit. Average speeds were recorded as 35.2 mph for northbound and 37.7 for southbound.

The posted speed limit on NY Route 28 at the intersection with NY Route 375 and Basin Road is 45 mph. Count station 860228, located on the east side of the intersection, did not have available speed data. However, it is reasonable to say that the speeds are similar to the information from count station 860229 (52-53 mph) also located in a 45 mph speed limit zone.

Existing Intersection Conditions

NY Route 28 and Reservoir Road

The intersection of NY Route 28 and Reservoir Road is a 3-legged intersection operating under one-way stop control. NY Route 28 is the east and west leg, while Reservoir Road is the south leg. NY Route 28 has a shared turn and through lane for both approaches, while Reservoir Road is under stop control with a shared left-right-thru lane. Both approaches of the intersection for NY Route 28, have a cross section of an approach lane, a departure lane, and a striped shoulder with curbing on each side. There is a closed drainage system and overhead utilities within the intersection. The cross section for Reservoir Road consists of an approach lane, departure lane, with a striped shoulder and curbing on each side.

NY Route 28 and NY Route 375

This is a 3-legged intersection operating under signalized control. The west leg, NY Route 28, consists of two approach lanes and one departure lane. There is a shared left turn/through lane, and a through lane. The departure lane has curbing at the shoulder edge, and a commercial driveway intersecting NY Route 28. The east leg consists of an approach that has an exclusive right turn lane and a through lane, while there are two departure lanes. The north and south sides of NY Route 28 have a shoulder with curbing on the north side, and no curbing on the south side. NY Route 375 consists of a shared right/through/left turn approach lane, and a single departure lane. There is a shoulder on each side with curbing. The signal is span wire mounted, and the intersection has overhead utilities, and closed drainage on the north side.

NY Route 28 and Basin Road

This is a four-legged intersection operating under signalized control. Basin Road, the west leg, consists of a single approach and departure lane. The approach lane is a shared right/through/left turn lane. There are striped shoulders on each side. The east leg, Zena Road, has a single approach and departure lane. The approach lane consists of a shared left/through/right turn lane. There is a striped shoulder on each side. NY Route 28 consists of the north and south legs. Both legs have two approach and two departure lanes. The approach lanes are shared through/turning lanes. There is a striped shoulder on each side with intermittent curbing on each side of NY Route 28. Approximately 300’ north of the intersection, Basin Road has a right turn bypass lane where it eventually “tees” Basin Road, the west leg of the intersection.

Existing Traffic Volumes

Turning movement counts were taken at the 3 study intersections. AM, PM, and midday Saturday counts were taken on October 29, 2016 and November 1, 2016, to determine the peak hour for each time period. Table 1 below shows the peak hour for each study intersection for the AM, PM, and Saturday peak hours.

Table 3.1 – Intersection Peak Hours

		Intersection		
		Reservoir Road at Route 28	NY Route 375 at NY Route 28	Basin Road at NY Route 28
Peak Hour	AM	8:00 AM – 9:00 AM	8:00 AM – 9:00 AM	8:00 AM – 9:00 AM
	PM	3:30 PM – 4:30 PM	3:30 PM – 4:30 PM	4:00 PM – 5:00 PM
	Midday Saturday	12:00 PM – 1:00 PM	12:45 PM – 1:45 PM	12:30 PM – 1:30 PM

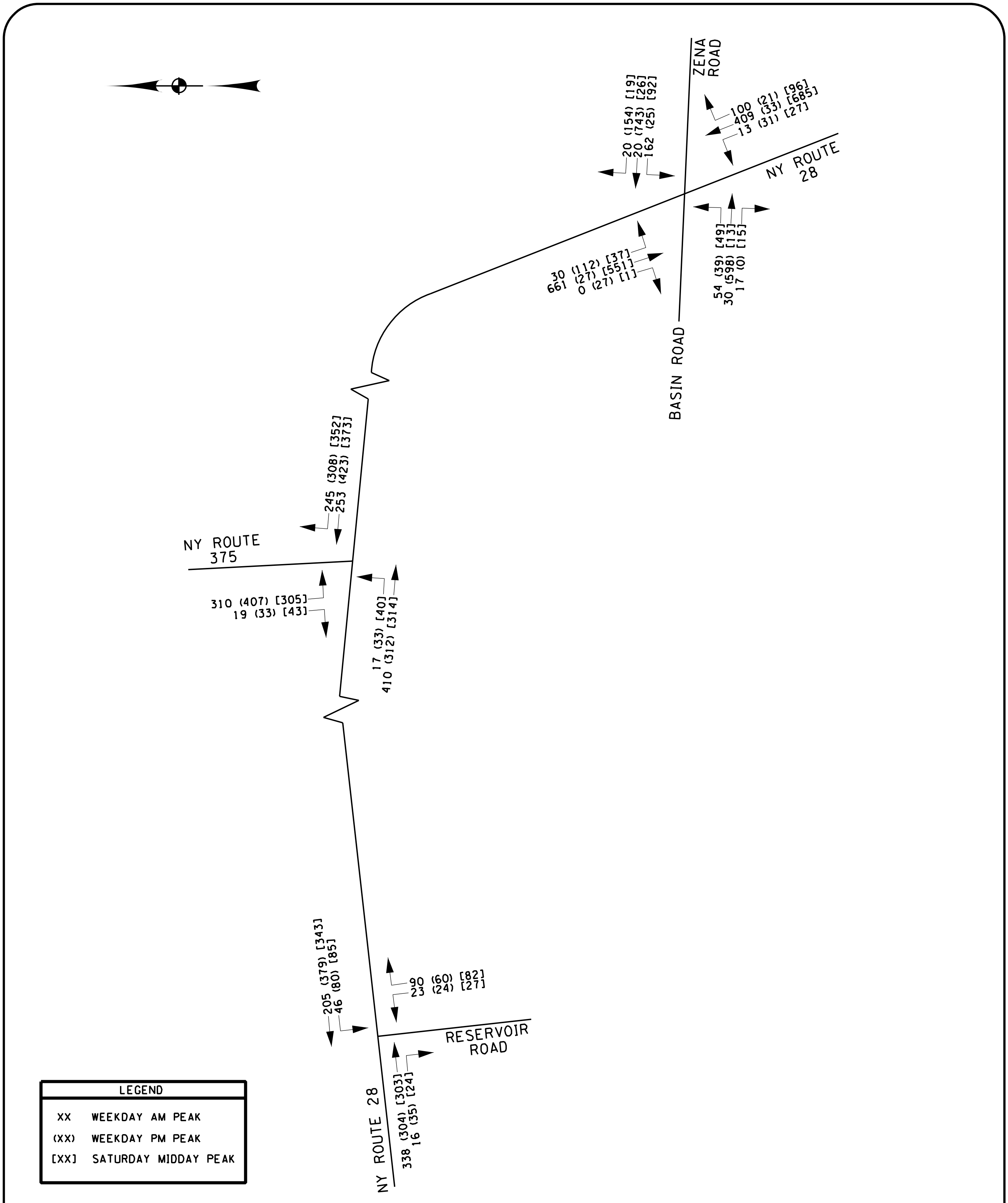
The NYSDOT traffic count reference, "Seasonal Adjustment Factors 2016," was reviewed to determine if the traffic counts were taken during seasonally low traffic periods. The AM and PM counts, which were performed on November 1, were taken during a seasonally low traffic month in a suburban area, during a work week. Therefore, these counts were adjusted by 0.948 to better illustrate a year round volume at the study intersections. The Saturday TMCs were performed on October 30, and did not require a seasonal adjustment since October on the weekend is representative of year round traffic volumes. An adjustment for the Saturday TMCs could be applied that would reduce volumes. However, to remain conservative, no adjustments were made to the Saturday counts. Figure 2 on the following page is the turning movement diagram for seasonally adjusted existing turning movement counts at each peak hour for each of the study intersections.

Other Proposed Developments

After consultation with Ulster County and the Towns of Olive and Hurley, there are no currently proposed or approved development within the study area that would impact or create an increase in traffic. Therefore, no other projects were included in this traffic study.

Future No Build Traffic Volumes

A growth rate was applied to the TMCs to obtain future no build traffic volumes. A growth rate of 0.5% was used to project existing turning movement counts to future traffic volumes. See Appendix C for growth rate confirmation.



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ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

EXISTING TRAFFIC VOLUMES
PEAK HOUR

DATE: JANUARY 2017

Figure

2

Project No.

369.007.001

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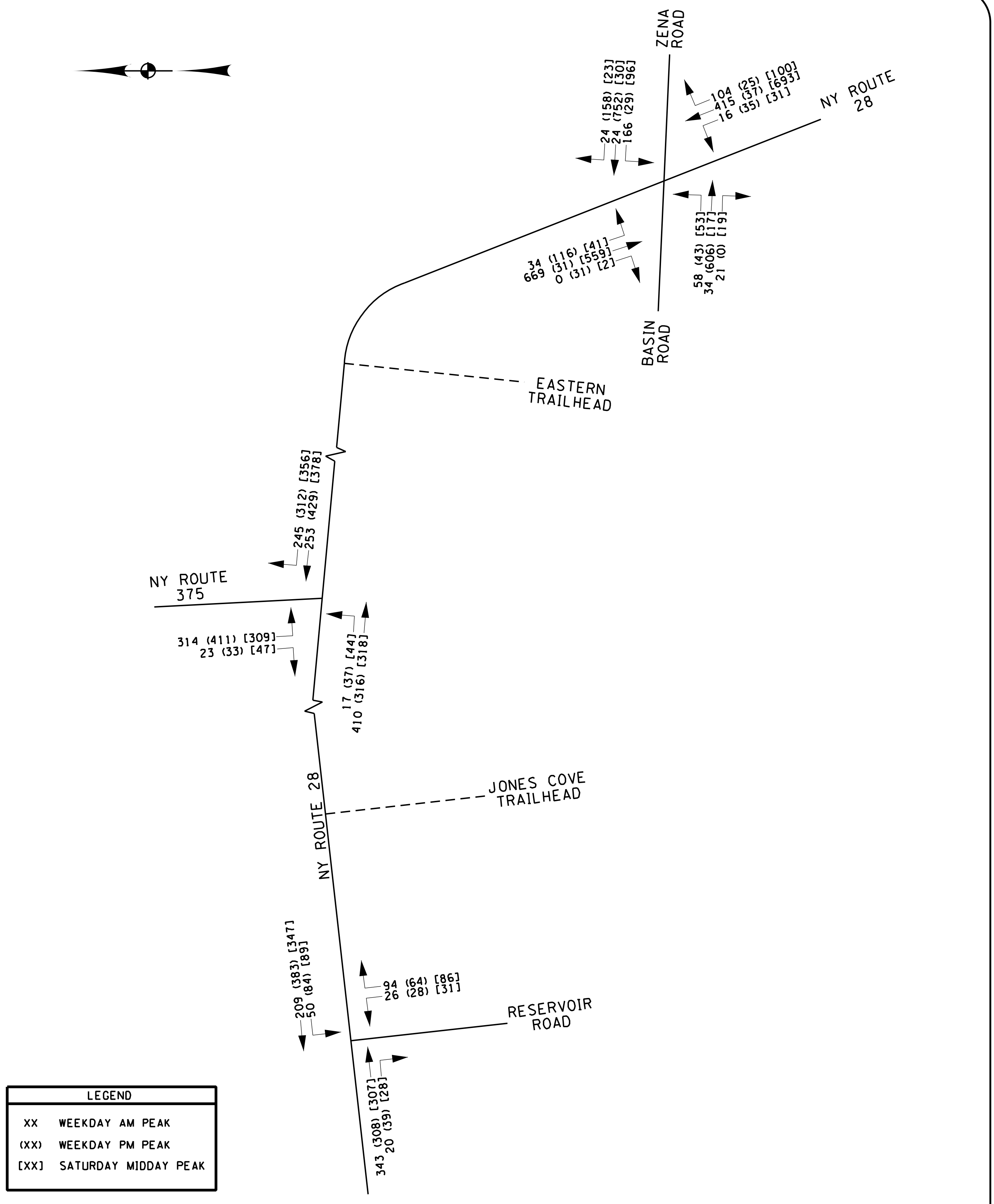

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ULSTER COUNTY, NY

NO BUILD ETC (2018)
TRAFFIC VOLUMES PEAK HOUR

DATE: JANUARY 2017

Figure

3

Project No.

369.007.001

4 Proposed Development

Project Description

The proposed trail project includes two trailheads that are being designed and developed by the NYC DEP. Identified here for discussion as the Eastern Trailhead and Jones Cove Trailhead. The approximate access drive locations for each trailhead are circled in Figures 4 and 5.

Figure 4 – Eastern Trailhead Access Location (Satellite image and map)

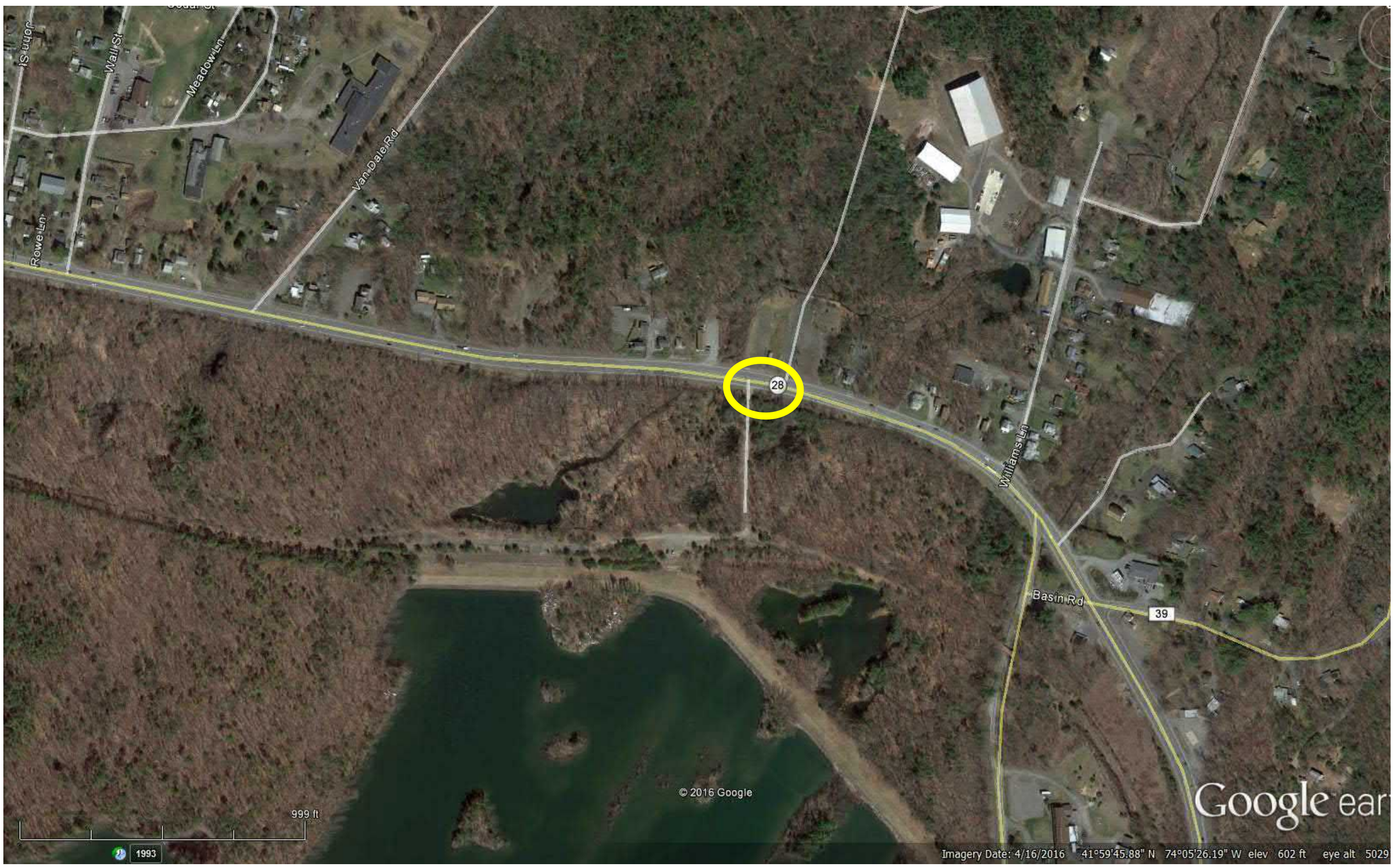
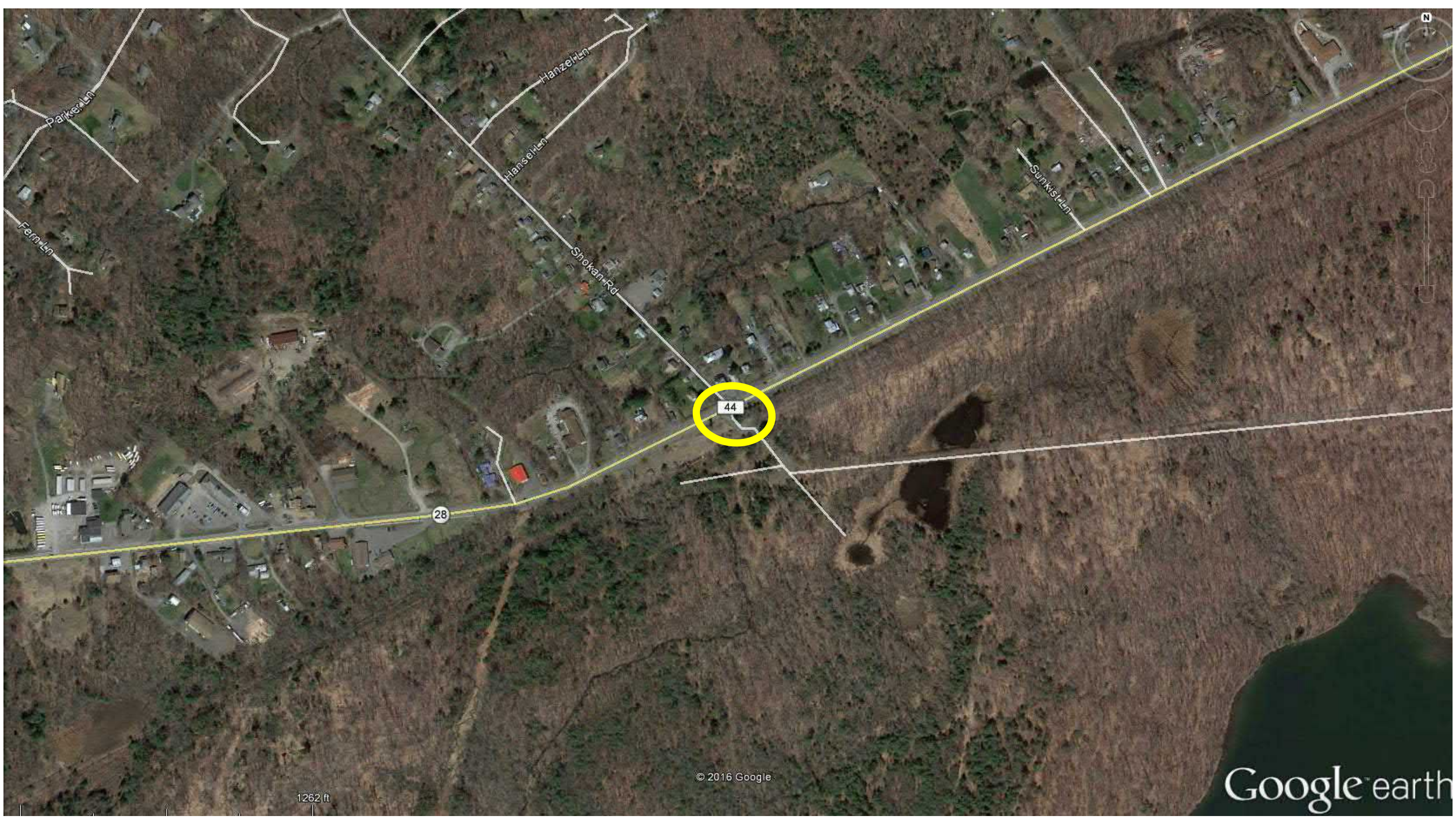


Figure 5 – Jones Cove Trailhead Location (Satellite image and map)



Traffic Generation Methodology

To evaluate potential impacts of the Ashokan Rail Trail and trailheads on the adjacent transportation system, an estimate of trip generation site potential was calculated. *Trip Generation, 9th Edition* published by the Institute of Transportation Engineers (ITE) is an industry-standard and typical resource for estimating the traffic generated by various types of land uses. However, due to the nature of this project, lack of historical data, and a land use that does not categorically fit within the published data, the data provided in the *Trip Generation* does not apply to these projects and was not used to estimate the site generated trips.

To estimate the yearly usage of the trail, a study completed by New York State Office of Parks, Recreation, and Historic Preservation was used (NYSOPRHP). *An Analysis of the 2015 Trail User Survey & Count*[1] has an annual estimate of trail usage for a portion of surveyed trails around New York State. Four trails (five trail segments) were chosen for similarities to those of the proposed Ashokan Trail and geographic location in New York State (Capital and Hudson Valley Region);

(1) Hudson Valley Rail Trail (Highland Segment)
(2) O&W Rail Trail (Hurley Segment)

[1] New York State Office of Parks, Recreation, and Historic Preservation. *An Analysis of the 2015 Trail User Survey & Count.* February 2016.

(3) Harlem Valley Rail Trail

(4) Mohawk Hudson Bikeway (Blatanic Park and Lions Park)

The averages of the annual usage for the listed trails was used to determine an estimated annual usage for the Ashokan Rail Trail. The Hudson Valley Rail Trail – Lloyd, was not used to determine the average annual trail usage estimate since this trail has a unique feature (Walkway over the Hudson River) that could skew the averages.

Table 4.1 – Estimate Annual Trail Usage

Trail Name	Estimate of Yearly Use
Hudson Valley Rail Trail (Highland Segment)	192,700
O&W Rail Trail (Hurley Segment)	130,535
Harlem Valley Rail Trail	136,365
Mohawk Hudson Bikeway (Blatnick Park)	207,911
Mohawk Hudson Bikeway (Lions Park)	373,647
Average	**208,232**

Determining peak user times and days was based on existing trail user data counts. Parks & Trails New York is currently collecting raw user counts at multiple trails in New York State. Trail counts were analyzed for 4 existing trails, the Erie Canal Trails in Tonawanda, Camillus, and Dewitt, and the Warren County Bikeway. The Erie Canal Trail in Dewitt provided daily user counts from June – September, the Erie Canal in Tonawanda provided daily user counts for one year. The Erie Canal in Camillus has hourly user counts from June through September, and the Warren County Bikeway has hourly user counts over the course of a year. The user counts from these existing trails were analyzed to establish trail usage trends such as peak months and peak days, and how these compared to an annual usage of each trail.

Using the estimated annual usage, the existing data on the four trails provided by Parks & Trails New York was used to determine a representation of the number of users during the peak hour. Multiple scenarios were analyzed to determine which would have the greatest impact to the adjacent roadway network. Turning movement counts were taken during the weekday AM, PM, and Saturday midday peak hours. The peaks of trail usage were compared to those of the roadway network, and it was determined that Saturday midday has the highest traffic volumes and site generated traffic combined. Therefore, this peak hour was analyzed for the site.

The existing trail user counts showed that, on average, Saturdays in July had the highest usage. Approximately 22% of the yearly usage occurred during the month of July with a single Saturday in July accounting for approximately 4% of the trail usage for the month of July. Since some vehicles will remain in the parking lot through the peak hour, it is estimated that 70% of the parking lot will turnover during the peak hour. This is taken into consideration when determining the number of entering and exiting vehicles during the peak hour.

An additional back up source of information for the conversion from annual users to peak hour users, was used for comparison purposes. The *Count Adjustment Factors*[2] was referenced to compare adjustment factors determined from the raw trail counts, to those developed through the National Bicycle & Pedestrian Documentation Project. Adjustment factors were very similar, therefore, the user trends shown in the raw trail counts were used to estimate peak hour users, converting to vehicle trips, for Ashokan Rail Trail.

Table 4.2 – Trip Generation: Users to Vehicle Trips

Time Period	Adjustment Factor	Number of Users
Annual	-	208,232
July, Peak Month (22% Of Annual)	0.22	45,812
Saturday, Peak Day (4% of Month)	0.04	1,833
Midday Peak Hour (10% of Saturday)	0.10	184
Vehicle Trips (1.5 users/vehicle)	-	123 vehicles
Adjustment for Turnover (70%)	0.70	86 vehicles

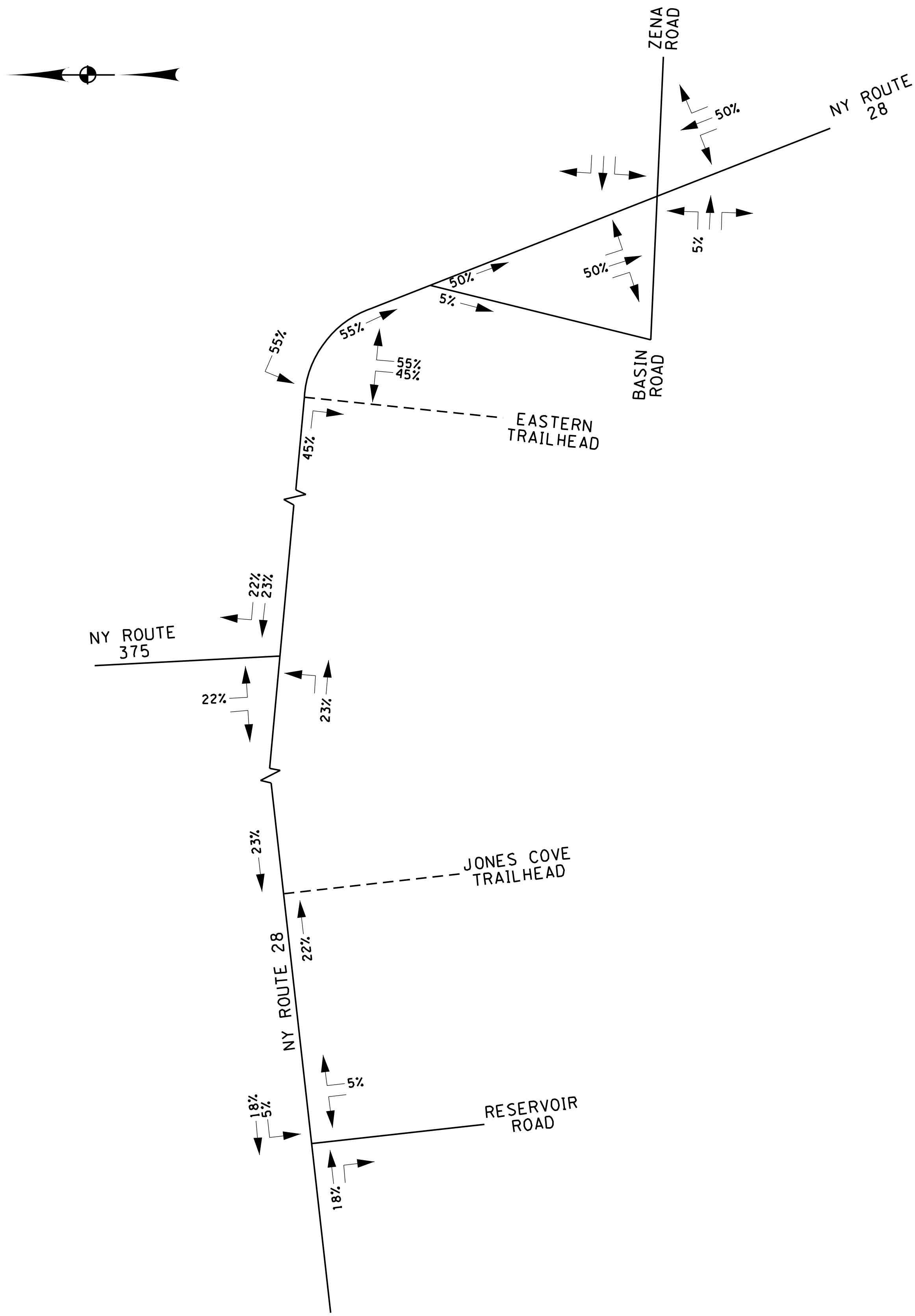
Table 4.3 – Peak Hour Site Generated Trips

Land Use	Peak Hour				
	Enter		Exit		Total
	EB RT	WB LT	EB RT	WB LT	
Jones Cove Trailhead	8	9	9	8	34
Eastern Trailhead	12	14	14	12	52
Total Net Trip Generation	20	23	23	20	86

[2] National Bicycle & Pedestrian Documentation Project. *Count Adjustment Factors.* March 2009.

From the conversion from annual users to peak hour trips, a total of 86 vehicles are anticipated to impact traffic on the Saturday peak hour, with a split of 50% entering and 50% leaving during that time. To be conservative, pass-by trips are not accounted for in the site generated trips.

The trips generated from Table 4.3 were distributed amongst existing traffic patterns. Since the eastern side of Route 28 has slightly higher daily traffic volumes, 60% of the trips generated were distributed to the Eastern Trailhead, and 40% to the Jones Cove Trailhead. Trip distribution and assignment representation are shown in Figures 6 through 9 after this section.



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ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

TRIP DISTRIBUTION SATURDAY PEAK
EASTERN TRAILHEAD

DATE: JANUARY 2017

Figure

6

Project No.

369.007.001

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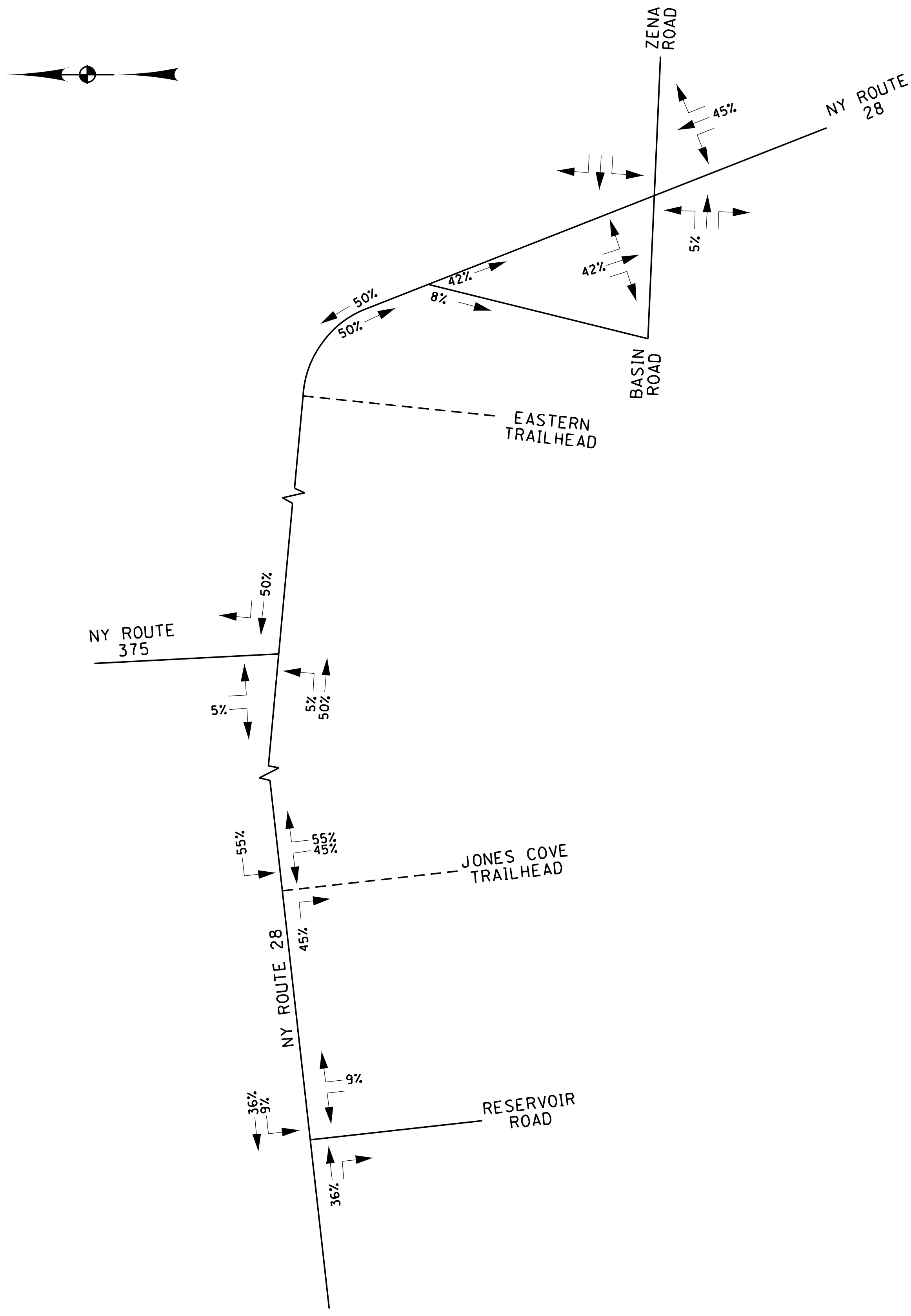

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ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

TRIP DISTRIBUTION SATURDAY PEAK
JONES COVE TRAILHEAD

DATE: JANUARY 2017

Figure
7

Project No.
369.007.001

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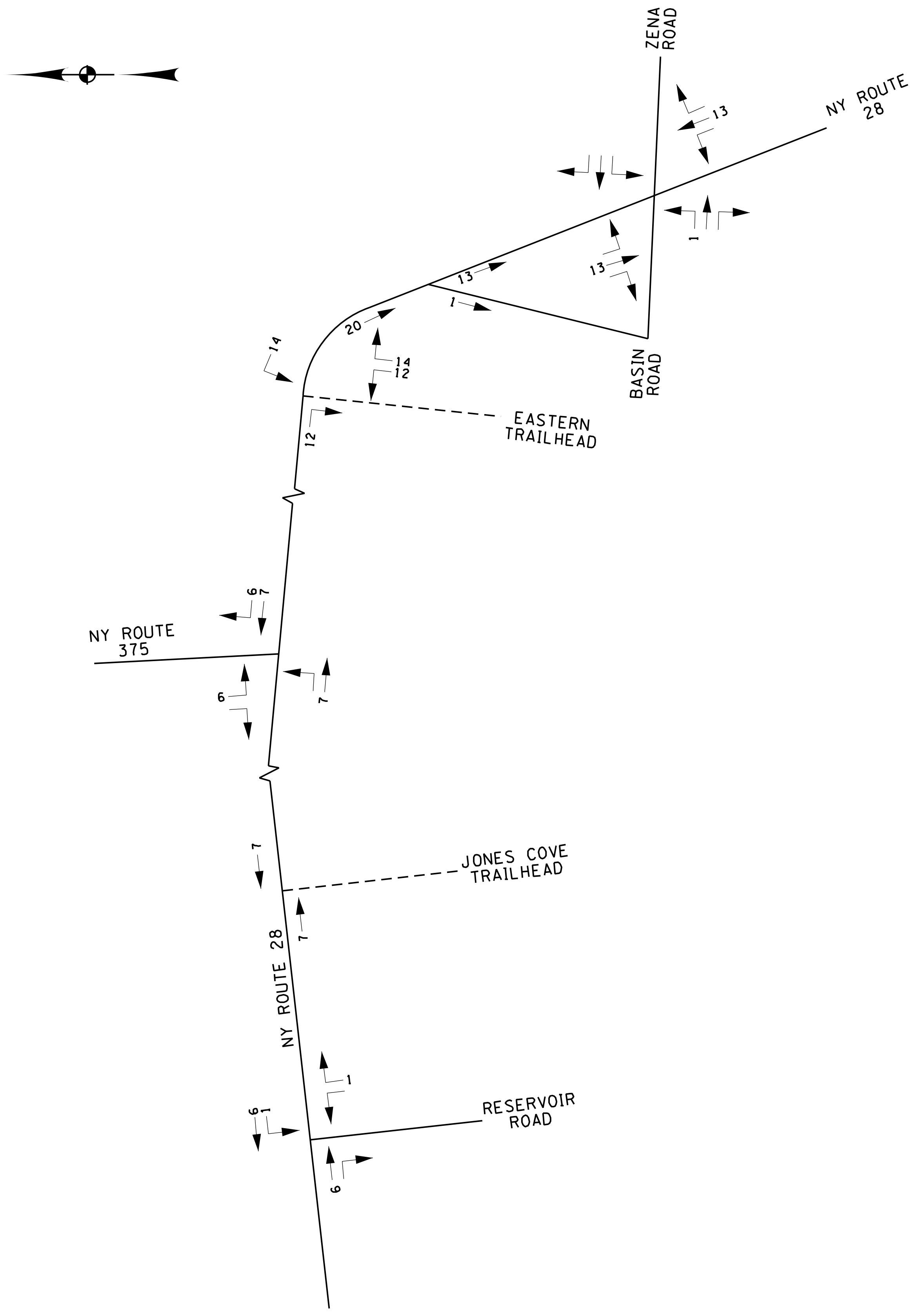

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ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

TRIP ASSIGNMENT SATURDAY PEAK
EASTERN TRAILHEAD

DATE: JANUARY 2017

Figure
8
Project No.
369.007.001

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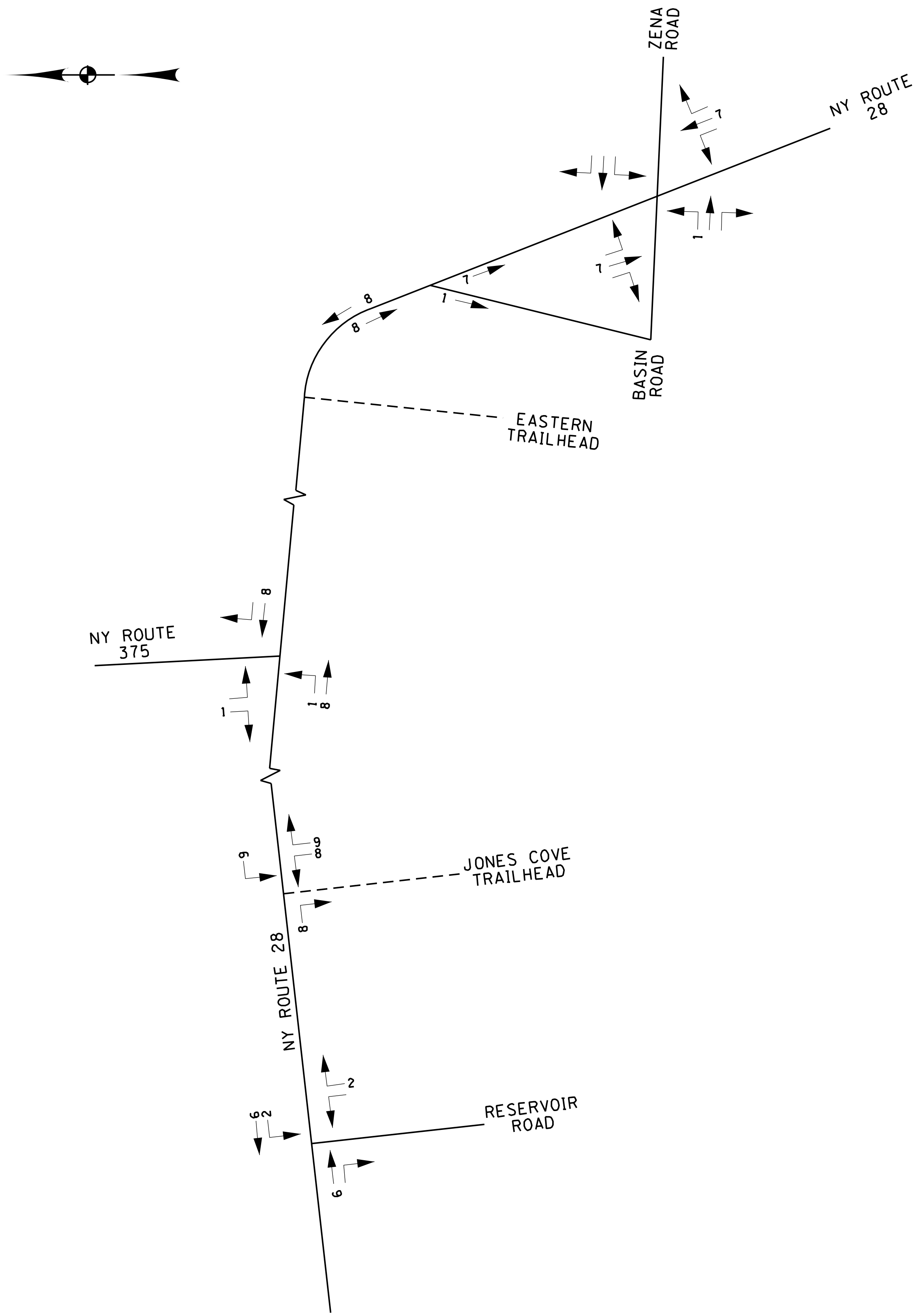

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ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

TRIP ASSIGNMENT SATURDAY PEAK
JONES COVE TRAILHEAD

DATE: FEBRUARY 2017

Figure
9

Project No.
369.007.001

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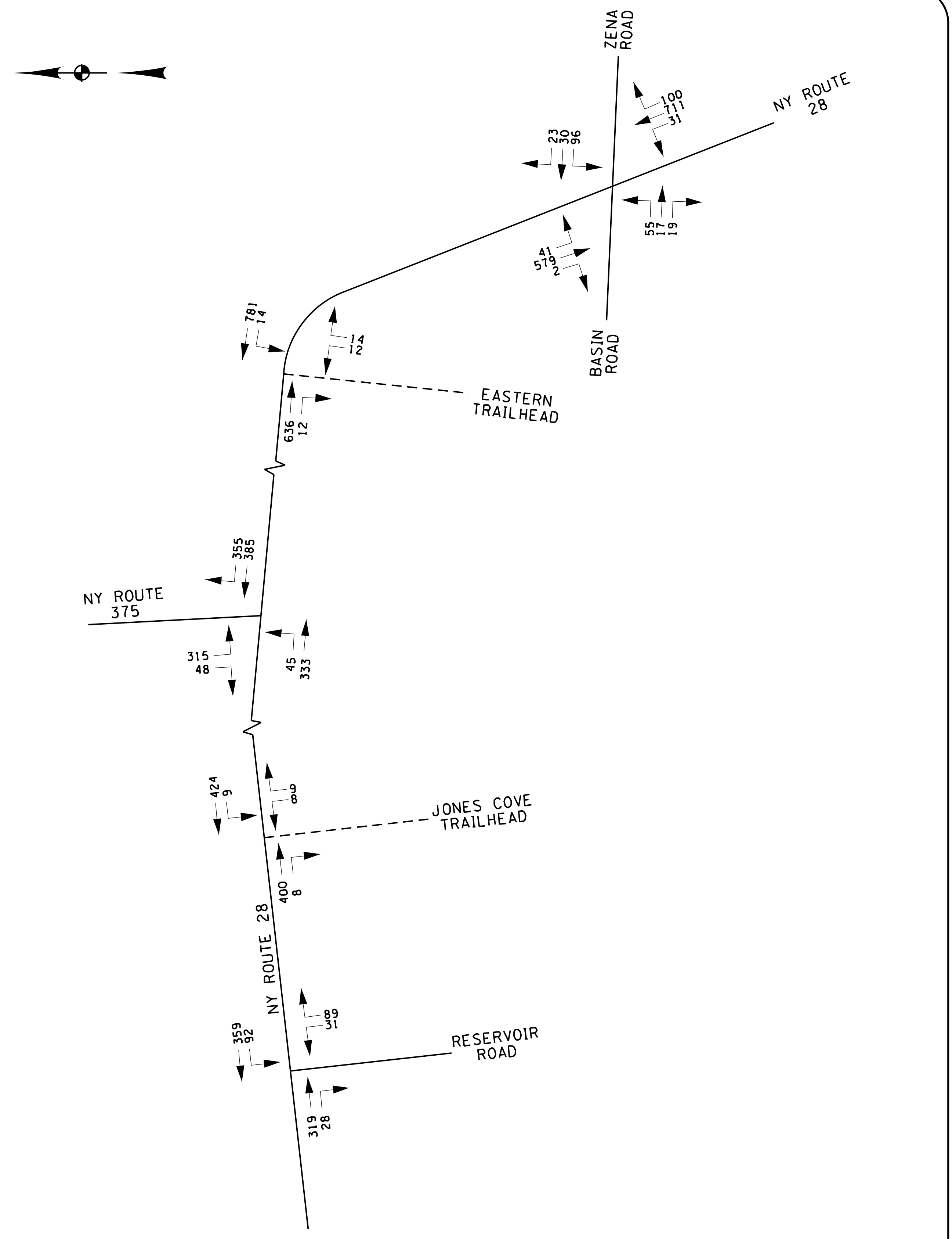

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ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

BUILD ETC (2018) TRAFFIC VOLUMES
SATURDAY PEAK HOUR

DATE: FEBRUARY 2017

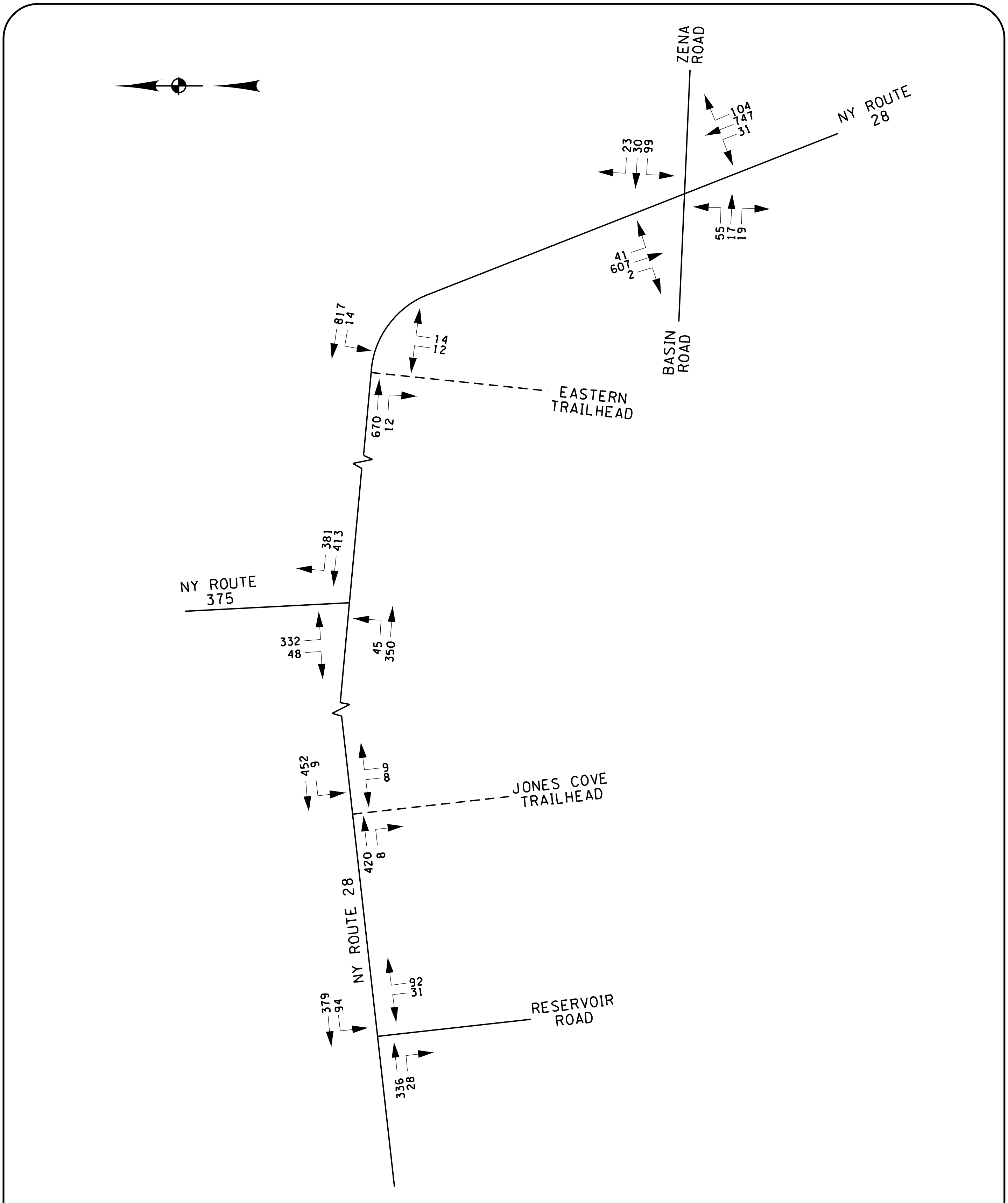
Figure

10

Project No.

369.007.001

FILE NAME = I:\Shared\300\369007\369007 Future TMC.dgn



Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

ASHOKAN RAIL TRAIL
ULSTER COUNTY, NY

BUILD ETC + 10 (2028)
TRAFFIC VOLUMES PEAK HOUR

DATE: JANUARY 2017

Figure

11

Project No.

369.007.001

FILE NAME = I:\Shared\300\369007\369007 Future TMC.dgn

5 Capacity and Level of Service Analysis

The objective of a capacity analysis is to assign a level of service (LOS) to transportation facilities under different types of characteristics. LOS is a qualitative measure of operational conditions using concepts and procedures from the Highway Capacity Manual[3]. Operational characteristics described in LOS for motorists are conditions such as delay, speed, congestion, travel time, and safety. In general, a LOS "A" represents the best operating conditions, and "F" representing the worst operating conditions.

Table 5.1 – LOS Criteria for Intersections

LOS	Description	Delay in Seconds Signalized	Delay in Seconds Unsignalized
A	Little or No Delay	< = 10	< = 10
B	Minor or Short Delay	> 10 to 20	> 10 to 15
C	Average Delay	> 20 to 35	> 15 to 25
D	Long but Acceptable Delay	> 35 to 55	> 25 to 35
E	Long and Unacceptable Delay	> 55 to 80	> 35 to 50
F	Long and Unacceptable Delays	> 80	> 50

To determine the impacts of the proposed project on adjacent intersections, a LOS analysis was performed for three intersections in the study area. Synchro 9 software was used to perform the analysis. Since it was previously determined that the highest traffic volumes, which include background traffic and project traffic, would occur on midday Saturdays, this conditions was analyzed. Five scenarios were analyzed during the weekend peak hour: Existing Conditions, 2018 ETC No-Build, 2018 ETC Build, ETC+10 No-Build, and ETC+10 Build. Table 5.1 shows the results of the LOS analysis.

LOS Analysis Results

Referring to Table 5.2, traffic generated by the proposed trail project has negligible impacts to the three study area intersections.

Route 28 at Basin Road/Zena Road

The signalized intersection of Route 28 at Basin Road/Zena Road is currently operating at an acceptable level of service and expected to continue to do so for the no build conditions. Under

[3] Transportation Research Board. Highway Capacity Manual, 2010. Volumes 1-3. 2010. Washington, D.C.

the build conditions, increases in only a few tenths of a second will theoretically occur with no decrease in LOS. No mitigation is proposed at this location.

Route 28 at Route 375

This signalized intersection was operating at an acceptable LOS B for the existing and no-build 2028 conditions. The proposed project would have minimal impacts to the intersection with only slightly increasing delay by a few tenths of a second, while maintaining the same LOS value. Due to the negligible impacts of the project on this intersection, no mitigation is proposed at this location.

Route 28 at Reservoir Road

This intersection is a one-way stop controlled intersection. The northbound leg is stop controlled and operates at LOS B for the existing conditions. The no-build 2028 future conditions will incur a slight increase in delay, pushing LOS to an acceptable C for the stop controlled approach. The build conditions will have a minimal impact on the intersection, for the ETC 2028 condition, the slight increase in delay may be described as a reduction in LOS from a B to a still acceptable C. There were no changes to the LOS value for the ETC+10 between no build and build conditions. Due to the minimal impacts on the intersection, there is no proposed mitigation.

Route 28 at the Eastern Trailhead

The proposed intersection will be under stop control for the northbound approach with Route 28 operating freely. The northbound approach has an acceptable LOS B for the ETC and ETC+10 build conditions.

Route 28 at the Jones Cove Trailhead

The proposed intersection will be under stop control for the northbound approach with Route 28 operating freely. The northbound approach has an acceptable LOS C for the ETC and ETC+10 build conditions.

Table 5.2 – LOS Analysis for Intersections during the Saturday Peak Hour

Intersection Approach	2016 Existing		2018 ETC No Build		2018 ETC Build		2028 ETC+10 No Build		2028 ETC+10 Build	
	LOS[a] (Delay)[b]	Queue[c] (V/C)[d]	LOS (Delay)	Queue (V/C)	LOS (Delay)	Queue (V/C)	LOS (Delay)	Queue (V/C)	LOS (Delay)	Queue (V/C)
Route 28 at Basin Road and Zena Road - Signalized										
Route 28 NB *L/T/R*	A (6.7)	138 (0.38)	A (7.1)	138 (0.40)	A (7.2)	143 (0.41)	A (7.8)	150 (0.46)	A (8.0)	154 (0.47)
Route 28 SB *L/T/R*	A (6.4)	104 (0.30)	A (6.8)	104 (0.32)	A (6.9)	107 (0.33)	A (7.5)	111 (0.37)	A (7.5)	115 (0.38)
Basin Road EB *L/T/R*	B (18.2)	53 (0.29)	B (18.1)	53 (0.32)	B (18.2)	54 (0.32)	B (17.7)	53 (0.31)	B (17.9)	54 (0.31)
Zena Road WB *L/T/R*	C (27.3)	92 (0.58)	C (26.0)	92 (0.57)	C (25.8)	92 (0.57)	C (27.3)	94 (0.60)	C (27.2)	94 (0.60)
Overall Intersection	**A (9.1)**	-	**A (9.4)**	-	**A (9.5)**	-	**B (10.1)**	-	**B (10.2)**	-
Route 28 at Route 375 – Signalized										
Route 375 SB *L/R*	C (33.3)	244 (0.77)	C (33.6)	244 (0.78)	C (34.0)	249 (0.79)	C (34.7)	258 (0.8)	D (35.0)	265 (0.81)
Route 28 EB *L/T*	A (9.8)	87 (0.23)	B (10.0)	87 (0.24)	B (10.2)	91 (0.25)	B (10.4)	91 (0.25)	B (10.6)	95 (0.27)
Route 28 WB	A (6.2)		A (6.3)		A (6.5)		A (6.6)		A (6.9)	
T	B (11.7)	187 (0.37)	B (11.9)	187 (0.38)	B (12.1)	191 (0.39)	B (12.5)	198 (0.4)	B (12.8)	207 (0.42)
R	A (0.3)	0 (0.23)	A (0.3)	0 (0.23)	A (0.3)	0 (0.23)	A (0.4)	0 (0.24)	A (0.4)	0 (0.25)
Overall Intersection	**B (14.2)**	-	**B (14.4)**	-	**B (14.7)**	-	**B (14.9)**	-	**B (15.1)**	-
Route 28 at Reservoir Road – One Way Stop Controlled										
Reservoir Rd NB *L/R*	B (14.8)	24 (0.25)	B (14.7)	25 (0.26)	C (15.3)	28 (0.27)	C (15.2)	28 (0.27)	C (15.8)	30 (0.29)
Jones Cove Trailhead – One Way Stop Controlled										
Eastern Trailhead NB *L/R*	-	-	-	-	B (14.2)	5 (0.06)	-	-	B (14.8)	5 (0.06)
Eastern Trailhead – One Way Stop Controlled))										
Jones Cove Trailhead NB *L/R*	-	-	-	-	C (18.6)	10 (0.12)	-	-	C (19.9)	11 (0.13)

a – LOS, Level of Service, b – Delay, measured in seconds, c – 95th percentile, measured in feet, d – Volume to Capacity ratio

Proposed Mitigation

Each of the existing and the new proposed intersections will operate at acceptable levels of service in design year 2028. Even though the impacts of the project to the study intersections are insignificant, revised signal timings were investigated to improve existing and potentially the build conditions. Revised signal timings at the two signalized intersections are in the following table

Table 5.3 – Mitigation Results

Intersection	2028 ETC+10 No Build		2028 ETC+10 Build		Mitigation 2028 ETC+10 Build	
	LOS[a] (Delay)[b]	Queue[c] (V/C)[d]	LOS (Delay)	Queue (V/C)	LOS (Delay)	Queue (V/C)
Route 28 at Basin Road and Zena Road - Signalized						
Route 28 NB *L/T/R*	A (7.8)	150 (0.46)	A (8.0)	154 (0.47)	A (7.3)	132 (0.44)
Route 28 SB *L/T/R*	A (7.5)	111 (0.37)	A (7.5)	115 (0.38)	A (7.0)	99 (0.36)
Basin Road EB *L/T/R*	B (17.7)	53 (0.31)	B (17.9)	54 (0.31)	B (16.5)	50 (0.32)
Zena Road WB *L/T/R*	C (27.3)	94 (0.60)	C (27.2)	94 (0.60)	C (24.6)	85 (0.59)
Overall Intersection	**B (10.1)**	-	**B (10.2)**	-	**A (9.3)**	-
Route 28 at Route 375 – Signalized						
Route 375 SB *L/R*	C (34.7)	258 (0.8)	D (35.0)	265 (0.81)	C (20.1)	160 (0.72)
Route 28 EB *L/T*	B (10.4)	91 (0.25)	B (10.6)	95 (0.27)	B (11.1)	76 (0.35)
Route 28 WB	A (6.6)		A (6.9)		A (7.7)	
T	B (12.5)	198 (0.4)	B (12.8)	207 (0.42)	B (14.5)	170 (0.54)
R	A (0.4)	0 (0.24)	A (0.4)	0 (0.25)	A (0.4)	0 (0.25)
Overall Intersection	**B (14.9)**	-	**B (15.1)**	-	**B (11.8)**	-

As presented in Table 5.3 above, minor adjustments to signal timings for the intersections of Route 28 and Basin Road/Zena Road, and Route 28 at Route 375, result in an improvement compared to future no build conditions for all intersection movements. See Appendix C for Synchro reports.

6 Sight Distance Evaluation

Sight distances were evaluated for the proposed driveway entrances for trailheads access from NY Route 28. The available intersection sight distances were measured from the perspective of a driver exiting the trailhead driveways, looking left and right along Route 28. Sight distance was also measured for vehicles making a left turn movement from Route 28 to the proposed trailhead driveways. Stopping sight distance was also measured at the proposed trailhead driveways. Stopping sight distance is “the distance necessary for a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path.”

Intersection Sight Distance

Intersection sight distances were checked on both proposed driveways as in accordance with Chapter 5 of the NYSDOT HDM. The posted speed limit on Route 28 at the Eastern Trailhead driveway is 45 mph. No existing speed data is available at this location on the NYSDOT Data Viewer. However, based on recorded 85th percentile data adjacent to this segment in the project area, typical operating speeds are 5-8 mph higher than the posted speed limit, therefore a design speed of 53 mph was selected.

Table 6.1 – Driveway Sight Distances

Intersection		Intersection Sight Distance[1] (ft)				Stopping Sight Distance[2] (ft)	
		Right Turn From Sight	Left Turn From Sight		Left Turn from 28	28 EB Approach	28 WB Approach
			Looking Left	Looking Right			
Eastern Trailhead Driveway	Available	1269	1269	724	1613	1269	935
	Recommended	530	650	590	490	460	425
Jones Cove Trailhead Driveway	Available	1024	1024	1500+	572	572	1500+
	Recommended	530	610	610	445	495	495

+ Actual sigh distance is greater than the number shown
1 Measured at 14.5 feet back from travel way at an object and eye height of 3.5 feet.
2 Measured for 2 foot object located in the path of EB and WB vehicles on Route 28 at an eye height of 3.5 feet.

As shown in Table 6.1, the available sight distances for both trailhead driveways, meet recommended sight distances. Sight distances for right and left turns exiting the trailhead driveways are met, as well as left turns entering the driveways from Route 28. Stopping sight distances are also met for both the eastbound and westbound approaches for each driveway.

Eastern Trailhead Driveway Looking Left (West)

Eastern Trailhead Driveway Looking Right (East)

7 Crash Analysis

A crash analysis was performed for the study area, in accordance with the NYSDOT Highway Design Manual (HDM) Chapter 5 with accident data provided by Ulster County. The data was analyzed for the most recent five year period (2011 – 2015). The intersection crash analysis was completed at the 3 study intersections, Route 28 and Basin Road/Zena Road, Route 28 at Route 375, and Route 28 at Reservoir Road. A segment crash analysis was performed at the proposed trailhead driveways.

The accident rate of the intersections was calculated using the following formula:

Rate = (A*1,000,000)/(V*365)

A = Average number of crashes per year

V = Intersection ADT (total daily approach volume)

The accident rate of the segments was calculated using the following formula:

Rate = (A*1,000,000)/(L*V*365)

A = Average number of crashes per year

L = Segment length (miles)

V = Intersection ADT (total daily approach volume)

Intersection Crash Analysis

Route 28 at Basin Road/Zena Road

Over the five year period analyzed, this signalized intersection had 33 crashes resulting in a crash rate of 1.00 acc/mev. The statewide average for a rural 4-legged signalized intersections is 0.61 acc/mev. The predominant collision types were rear end, overtaking, and left turns against other cars. The breakdown of the predominant collisions at the intersections are shown in Table 8.1. Rear ends are a common type of collision at signalized intersections, as well as left turn collisions at intersections without a protected left turn phase. Although the accident rate is higher than the statewide average, it isn't anticipated that the site generated traffic will increase the number of, or worsen the severity of collisions occurring at this intersection. Therefore, no mitigation is proposed.

Table 7.1 Route 28 and Basin Road/Zena Road Collision Chart

	Collision Manner					
	Rear End	Overtaking	Left Turn	Right Angle	Animal	Other
# of Accidents	7	7	5	4	3	7
Percentage of Accidents	21%	21%	15%	13%	9%	21%

Route 28 at Route 375

Over the five year period analyzed, this signalized intersection had 23 crashes resulting in a crash rate of 0.82 acc/mev. The statewide average for a rural 3-legged signalized intersections is 0.26 acc/mev. The predominant collision types were rear end and hitting animals and fixed objects. During the peak month and peak hour, it is anticipated that this intersection will increase by 26 vehicles due to this project. The vehicles added to this intersection will not have impacts to the intersection to increase accident rates. The collision pattern is typical of signalized intersections and with no expected increases, no mitigation is being proposed at this intersection.

Table 7.2 Route 28 and Route 375 Collision Chart

	Collision Manner					
	Rear End	Animal	Fixed Object	Left Turn	Right Angle	Overtaking
# of Accidents	8	6	3	2	2	2
Percentage of Accidents	34%	26%	13%	9%	9%	9%

Route 28 at Reservoir Road

Over the five year period analyzed, this one-way stop controlled intersection had 20 crashes resulting in a crash rate of 1.07 acc/mev. The predominant collision types were with animals and fixed objects such as trees, a building wall, and sign post. The majority of accidents involve animal strikes and objects near the intersection, therefore, there are no collision patterns apparently caused by geometric or intersection deficiencies. Because of this, there is no recommended mitigation for this intersection.

Table 7.3 Route 28 and Reservoir Road Collision Chart

	Collision Manner					
	Animal	Fixed Object	Rear End	Left Turn	Right Angle	Other
# of Accidents	6	6	4	1	1	2
Percentage of Accidents	30%	30%	20%	5%	5%	10%

Segment Crash Analysis

Eastern Trailhead

A segment crash analysis was performed at the proposed location of the eastern trailhead. The segment included a 0.125 mile distance on each side of the proposed driveway. Over the five year period analyzed, there were 12 crashes resulting in a segment crash rate of 3.05 acc/mvm. The statewide average for rural, 4-lane, free access undivided mainlines is 2.02 acc/mvm.

Half of the segment collisions occurred with animals and fixed objects, with 5 out of 6 of those during darkness.

Table 7.4 Proposed Eastern Trailhead Collision Chart

	Collision Manner				
	Animal	Fixed Object	Right Angle	Rear End	Other
# of Accidents	3	3	2	1	3
Percentage of Accidents	25%	25%	17%	8%	25%

Jones Cove Trailhead

A segment crash analysis was performed on a 0.125 mile segment on each side of the proposed Jones Cove Trailhead driveway with Route 28. From 2011-2015, 9 crashes occurred resulting in a crash rate of 2.28 acc/mvm. The statewide average for a free access rural 2-lane mainline is 2.26 acc/mvm, just slightly above the statewide average.

Table 7.5 Proposed Jones Cove Trailhead Collision Chart

	Collision Manner			
	Animal	Fixed Object	Rear End	Other
# of Accidents	4	2	2	1
Percentage of Accidents	45%	22%	22%	11%

Overall, the existing intersections all have an above-statewide crash rate average. The proposed project will generate a minor amount of additional vehicles having negligible impacts to each of the intersections. The proposed driveways for the trailheads, intersecting at Route 28, are not in an area where there are crash patterns or high crash rates. Therefore, based on current standards, there are no existing geometric or safety deficiencies within the area of the proposed Route 28 trailhead driveways.

8 Trailhead Parking

The number of parking spaces needed at both trailheads was estimated using existing trail user data. Existing trail data established usage increases during a peak holiday weekend. User counts for the Warren County Bikeway documented a 135% increase of users on Sunday during Labor Day weekend, compared to an average peak day in July (which is the peak trail usage month). The 135% increase was applied to the estimated number of trips during the peak hour for the Ashokan Rail Trail.

Vehicles entering and exiting the trailheads will do so at a 50/50 split, and during the peak hour, the parking lots will be at 85% capacity. A parking space was then accounted for each vehicle that enters and each that has not yet exited, assuming there is no turn over. With this, an additional 15% was added assuming the parking lots are operating at 100% capacity. Table 8.1 below displays the estimated number of parking spaces needed for a peak holiday weekend during the peak hour with no turnover.

Table 8.1 - Trailhead Parking Spaces

	Vehicles Entering During Peak Hour	Vehicles Exiting During Peak Hour	Number of Spaces Needed for at 85% Capacity	Number of Spaces Needed for 100% Capacity
Eastern Trailhead	45	45	76	90
Jones Cove Trailhead	30	30	51	60

It is recommended that the Eastern Trailhead provide between 75 and 90 parking spaces, and the Jones Cove Trailhead provide between 50 and 60 parking spaces.

Boiceville Trailhead

In future years, it is anticipated that a third trailhead facility will be added to the project. Initially, this trailhead will be used as a staging area for nearby transportation construction projects, through the year 2020. After this, the area will be converted to a third trailhead for the Ashokan Rail Trail, providing additional parking, and the unique recreational feature of rail riders, pedal-powered rail cars to travel along the abandoned railway line. The trailhead will be located at with access from Route 28A.

The Boiceville Trailhead will not be in operation until after the opening of the Ashokan Rail Trail and the other two trailheads. It is estimated that 30% of the proposed traffic for the Jones Cove Trailhead, and 30% of the Eastern Trailhead will use the Boiceville Trailhead once it is constructed. Using the same methodology described in the previous section, increasing proposed traffic by 135% on a peak holiday weekend, the following table shows the recommended number of parking spaces.

Table 8.2 - Boiceville Trailhead Parking Spaces

	Vehicles Entering During Peak Hour	Vehicles Exiting During Peak Hour	Number of Spaces Needed for at 85% Capacity	Number of Spaces Needed for 100% Capacity
Boiceville Trailhead	25	25	43	50

Therefore it is recommended that the Boiceville Trailhead provide between 40 and 50 parking spaces. However, during the first year of trail use, the number of spaces required should be monitored and adjustments made, if necessary, to the spaces provided at each of the trailhead locations.

9 Conclusions and Recommendations

This traffic impact study was completed for the proposed Ashokan Rail Trail project which includes the development of two trailheads with driveways intersecting Route 28 and an eventual third trailhead several years later. Based on the results of this study, the following conclusions and recommendations are offered:

1. Construction is expected to be completed in 2018.
2. The project will generate 86 new vehicle trips during the Saturday peak hour.
3. Both trailhead driveways will operate adequately as stop controlled intersections with a single lane approach.
4. For the build condition, the three study intersections, Route 28 at Basin Road/Zena Road, Route 28 at Route 375, and Route 28 at Reservoir Road, will operate adequately with minimal changes to delay and no change in LOS.
5. Minor adjustments to existing signal timings at Route 28 at Basil Road/Zena Road, and Route 28 at Route 375, could decrease delay for all intersection approaches for the future build condition, compared to the future no build condition.

6. Available sight distance for both Route 28 trailhead driveways meet recommended sight distances.
7. The accident rates at the existing study intersections are higher than the statewide average. These crash types are typical of the specific intersection control, and site traffic would not worsen or increase crashes.
8. The Eastern Trailhead design should consider providing 75 to 90 vehicle parking spaces, the Jones Cove Trailhead should consider providing 50 and 60 parking spaces, and the Boiceville Trailhead, constructed approximately 2 years after the initial trail opening, provide between 40 and 50 parking spaces. It is possible that the Boiceville trailhead may become the most popular location due to the relatively close proximity to the Boiceville Bridge over the Esopus Creek and the causeway portion of the trail. Signage can direct potential users who arrive by car of the availability of parking at the other two trailheads. This will be monitored and adjusted as necessary.

Appendix A

Turning Movement Counts

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2837
Collected By: RSO
Other Notes:

File Name : 008%D1~E
Site Code : 00000001
Start Date : 10/29/2016
Page No : 1

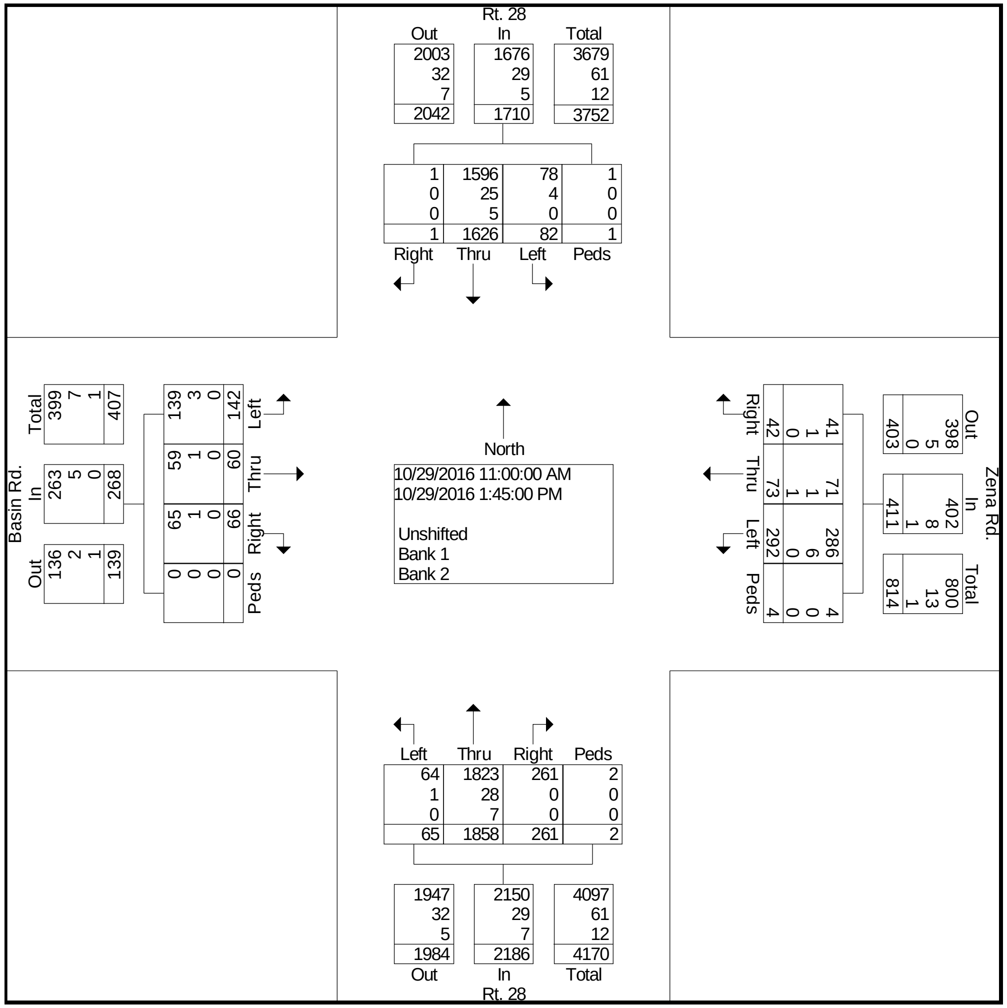
Groups Printed- Unshifted - Bank 1 - Bank 2

	Rt. 28 From North					Zena Rd. From East					Rt. 28 From South					Basin Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	0	128	8	0	136	5	5	25	3	38	13	129	1	1	144	5	5	7	0	17	335
11:15 AM	0	123	4	0	127	2	8	17	0	27	21	118	3	0	142	9	7	10	0	26	322
11:30 AM	0	152	4	0	156	3	4	23	0	30	29	154	8	0	191	3	4	16	0	23	400
11:45 AM	0	139	4	0	143	3	5	21	0	29	14	149	7	0	170	5	2	10	0	17	359
Total	0	542	20	0	562	13	22	86	3	124	77	550	19	1	647	22	18	43	0	83	1416
12:00 PM	0	145	10	1	156	2	3	32	0	37	21	158	4	1	184	9	10	14	0	33	410
12:15 PM	0	125	5	0	130	2	7	32	0	41	19	138	1	0	158	5	3	14	0	22	351
12:30 PM	0	145	9	0	154	3	8	30	0	41	23	182	5	0	210	3	3	14	0	20	425
12:45 PM	0	124	10	0	134	6	7	23	0	36	25	162	7	0	194	4	3	13	0	20	384
Total	0	539	34	1	574	13	25	117	0	155	88	640	17	1	746	21	19	55	0	95	1570
01:00 PM	0	134	10	0	144	8	5	24	0	37	26	168	7	0	201	4	3	12	0	19	401
01:15 PM	1	148	8	0	157	2	6	15	1	24	22	173	8	0	203	4	4	10	0	18	402
01:30 PM	0	125	4	0	129	4	9	18	0	31	28	167	7	0	202	7	10	11	0	28	390
01:45 PM	0	138	6	0	144	2	6	32	0	40	20	160	7	0	187	8	6	11	0	25	396
Total	1	545	28	0	574	16	26	89	1	132	96	668	29	0	793	23	23	44	0	90	1589
Grand Total	1	1626	82	1	1710	42	73	292	4	411	261	1858	65	2	2186	66	60	142	0	268	4575
Apprch %	0.1	95.1	4.8	0.1		10.2	17.8	71.0	1.0		11.9	85.0	3.0	0.1		24.6	22.4	53.0	0.0		
Total %	0.0	35.5	1.8	0.0	37.4	0.9	1.6	6.4	0.1	9.0	5.7	40.6	1.4	0.0	47.8	1.4	1.3	3.1	0.0	5.9	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2837
Collected By: RSO
Other Notes:

File Name : 008%D1~E
Site Code : 00000001
Start Date : 10/29/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
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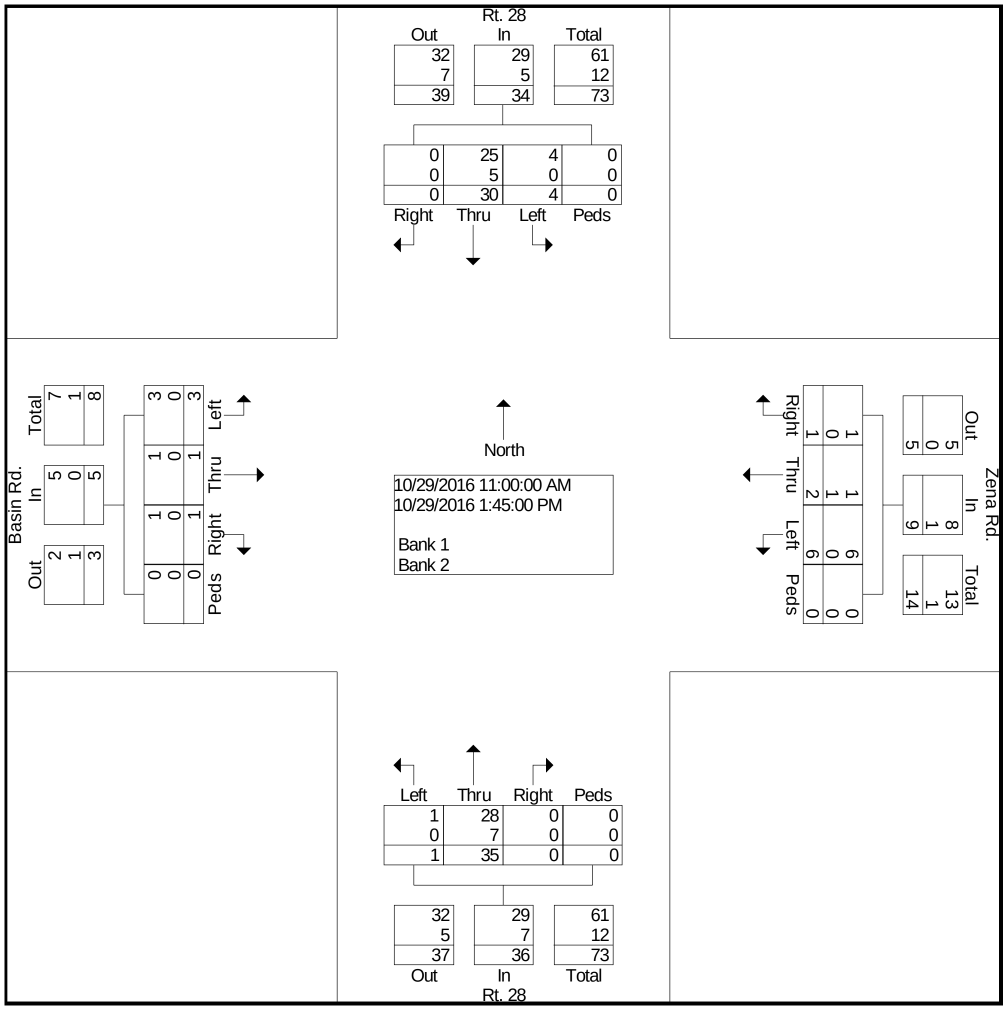
Groups Printed- Bank 1 - Bank 2

	Rt. 28 From North					Zena Rd. From East					Rt. 28 From South					Basin Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	9
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
11:45 AM	0	1	0	0	1	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	4
Total	0	4	0	0	4	0	0	1	0	1	0	11	0	0	11	0	0	1	0	1	17
12:00 PM	0	5	0	0	5	0	0	1	0	1	0	7	0	0	7	0	0	1	0	1	14
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	4
12:30 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	1	0	1	0	2	9
12:45 PM	0	2	3	0	5	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	9
Total	0	12	3	0	15	0	2	2	0	4	0	13	1	0	14	1	0	2	0	3	36
01:00 PM	0	4	1	0	5	1	0	3	0	4	0	1	0	0	1	0	0	0	0	0	10
01:15 PM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
01:30 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	5
01:45 PM	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9
Total	0	14	1	0	15	1	0	3	0	4	0	11	0	0	11	0	1	0	0	1	31
Grand Total	0	30	4	0	34	1	2	6	0	9	0	35	1	0	36	1	1	3	0	5	84
Apprch %	0.0	88.2	11.8	0.0		11.1	22.2	66.7	0.0		0.0	97.2	2.8	0.0		20.0	20.0	60.0	0.0		
Total %	0.0	35.7	4.8	0.0	40.5	1.2	2.4	7.1	0.0	10.7	0.0	41.7	1.2	0.0	42.9	1.2	1.2	3.6	0.0	6.0	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2837
Collected By: RSO
Other Notes:

File Name : 008%D1~E
Site Code : 00000001
Start Date : 10/29/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2839
Collected By: PCB
Other Notes:

File Name : 2016-1~1
Site Code : 22222222
Start Date : 10/29/2016
Page No : 1

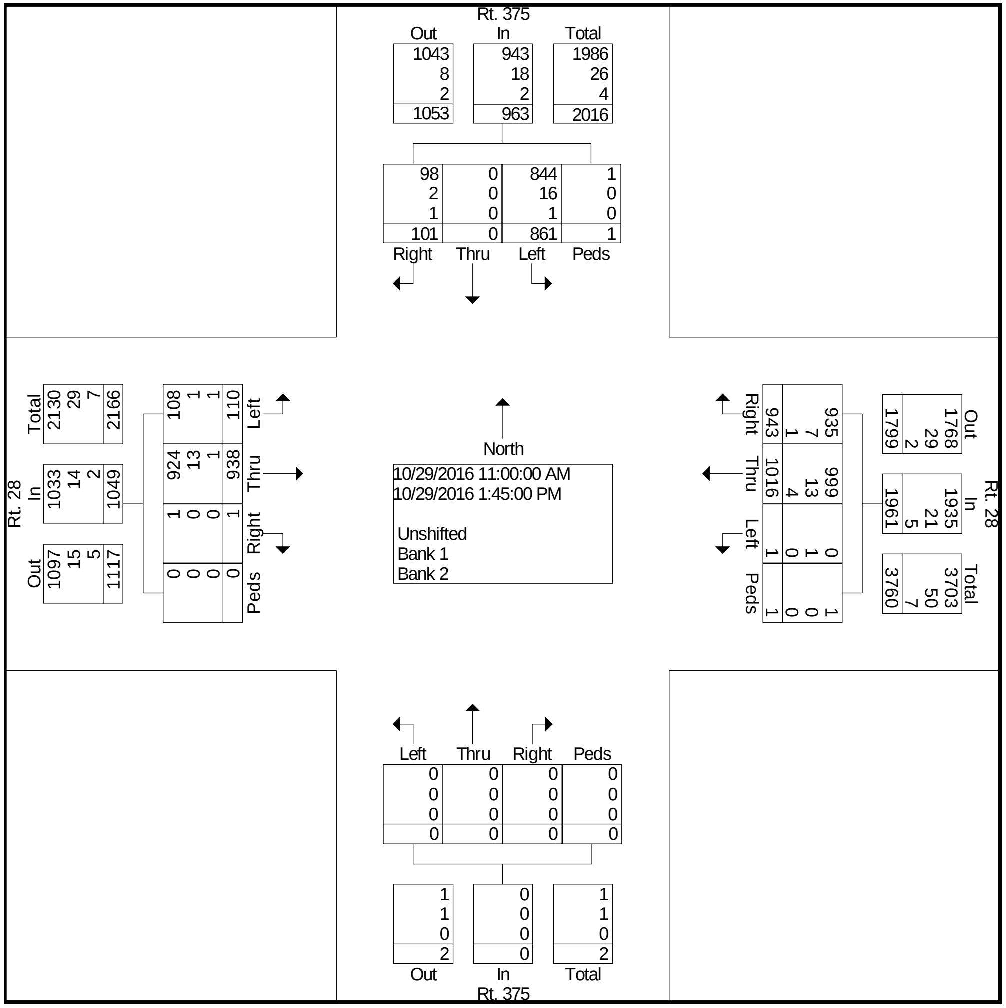
Groups Printed- Unshifted - Bank 1 - Bank 2

	Rt. 375 From North					Rt. 28 From East					Rt. 375 From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	3	0	61	1	65	57	73	0	0	130	0	0	0	0	0	0	69	10	0	79	274
11:15 AM	8	0	76	0	84	59	78	1	0	138	0	0	0	0	0	0	68	7	0	75	297
11:30 AM	5	0	75	0	80	85	69	0	0	154	0	0	0	0	0	0	82	8	0	90	324
11:45 AM	9	0	76	0	85	71	84	0	0	155	0	0	0	0	0	0	80	8	0	88	328
Total	25	0	288	1	314	272	304	1	0	577	0	0	0	0	0	0	299	33	0	332	1223
12:00 PM	6	0	69	0	75	79	89	0	0	168	0	0	0	0	0	0	75	11	0	86	329
12:15 PM	5	0	65	0	70	87	78	0	0	165	0	0	0	0	0	0	83	6	0	89	324
12:30 PM	10	0	81	0	91	73	89	0	0	162	0	0	0	0	0	0	76	8	0	84	337
12:45 PM	15	0	67	0	82	92	92	0	1	185	0	0	0	0	0	0	76	11	0	87	354
Total	36	0	282	0	318	331	348	0	1	680	0	0	0	0	0	0	310	36	0	346	1344
01:00 PM	8	0	67	0	75	97	82	0	0	179	0	0	0	0	0	0	89	11	0	100	354
01:15 PM	9	0	81	0	90	75	112	0	0	187	0	0	0	0	0	0	81	12	0	93	370
01:30 PM	11	0	90	0	101	88	87	0	0	175	0	0	0	0	0	0	68	6	0	74	350
01:45 PM	12	0	53	0	65	80	83	0	0	163	0	0	0	0	0	1	91	12	0	104	332
Total	40	0	291	0	331	340	364	0	0	704	0	0	0	0	0	1	329	41	0	371	1406
Grand Total	101	0	861	1	963	943	1016	1	1	1961	0	0	0	0	0	1	938	110	0	1049	3973
Apprch %	10.5	0.0	89.4	0.1		48.1	51.8	0.1	0.1		0.0	0.0	0.0	0.0		0.1	89.4	10.5	0.0		
Total %	2.5	0.0	21.7	0.0	24.2	23.7	25.6	0.0	0.0	49.4	0.0	0.0	0.0	0.0	0.0	0.0	23.6	2.8	0.0	26.4	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2839
Collected By: PCB
Other Notes:

File Name : 2016-1~1
Site Code : 22222222
Start Date : 10/29/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2839
Collected By: PCB
Other Notes:

File Name : 2016-1~1
Site Code : 22222222
Start Date : 10/29/2016
Page No : 1

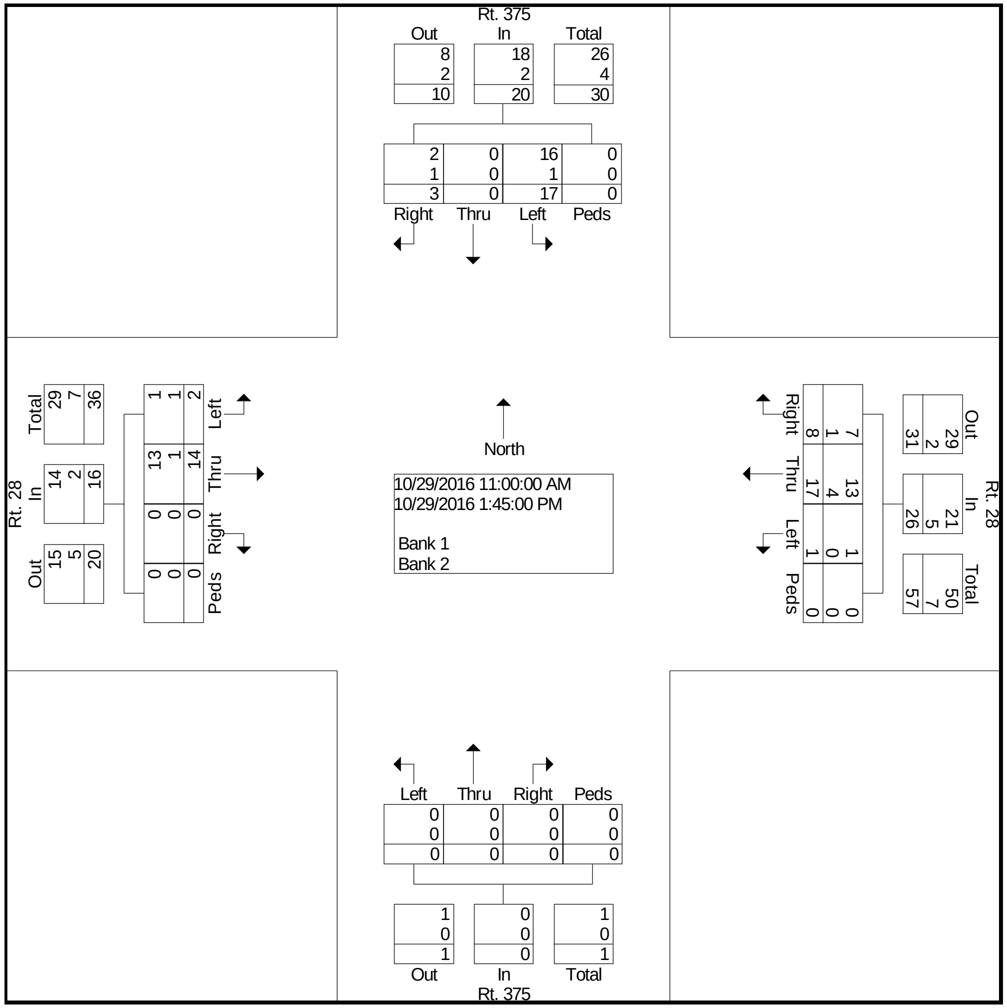
Groups Printed- Bank 1 - Bank 2

	Rt. 375 From North					Rt. 28 From East					Rt. 375 From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	4	0	4	2	3	1	0	6	0	0	0	0	0	0	1	0	0	1	11
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:45 AM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	4
Total	1	0	5	0	6	2	4	1	0	7	0	0	0	0	0	0	3	0	0	3	16
12:00 PM	0	0	1	0	1	3	2	0	0	5	0	0	0	0	0	0	3	1	0	4	10
12:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	1	0	3	0	4	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	7
12:45 PM	1	0	1	0	2	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	5
Total	2	0	5	0	7	3	9	0	0	12	0	0	0	0	0	0	5	1	0	6	25
01:00 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	6
01:15 PM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	3
01:30 PM	0	0	3	0	3	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	6
01:45 PM	0	0	2	0	2	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	7	0	7	3	4	0	0	7	0	0	0	0	0	0	6	1	0	7	21
Grand Total	3	0	17	0	20	8	17	1	0	26	0	0	0	0	0	0	14	2	0	16	62
Apprch %	15.0	0.0	85.0	0.0		30.8	65.4	3.8	0.0		0.0	0.0	0.0	0.0		0.0	87.5	12.5	0.0		
Total %	4.8	0.0	27.4	0.0	32.3	12.9	27.4	1.6	0.0	41.9	0.0	0.0	0.0	0.0	0.0	0.0	22.6	3.2	0.0	25.8	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D4-2839
Collected By: PCB
Other Notes:

File Name : 2016-1~1
Site Code : 22222222
Start Date : 10/29/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D24-2026
Collected By:CEP
Other Notes:

File Name : 2016-1~3
Site Code : 11111111
Start Date : 10/29/2016

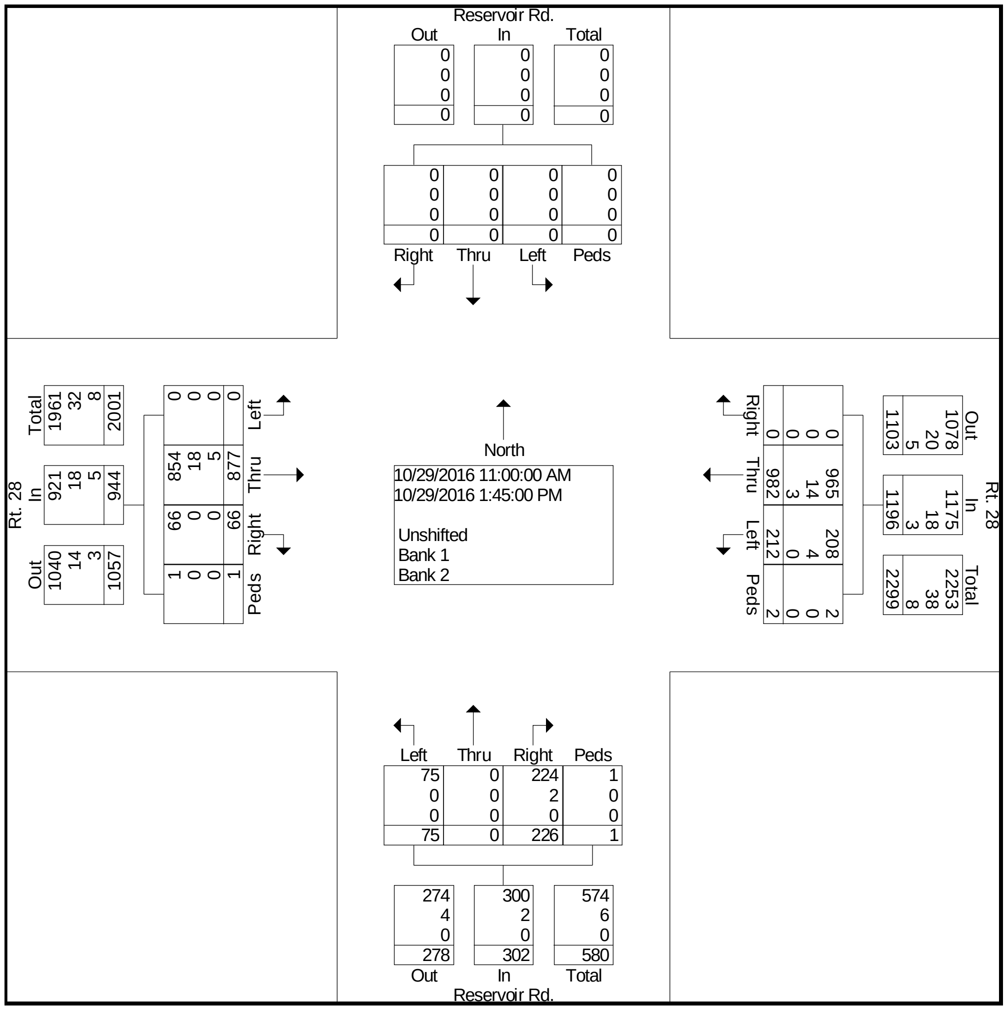
Groups Printed- Unshifted - Bank 1 - Bank 2

	Reservoir Rd. From North					Rt. 28 From East					Reservoir Rd. From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	0	0	0	0	0	0	81	12	0	93	18	0	8	0	26	5	73	0	0	78	197
11:15 AM	0	0	0	0	0	0	76	8	0	84	12	0	6	0	18	4	57	0	0	61	163
11:30 AM	0	0	0	0	0	0	66	18	0	84	18	0	5	1	24	2	86	0	1	89	197
11:45 AM	0	0	0	0	0	0	79	17	0	96	22	0	4	0	26	13	72	0	0	85	207
Total	0	0	0	0	0	0	302	55	0	357	70	0	23	1	94	24	288	0	1	313	764
12:00 PM	0	0	0	0	0	0	88	14	1	103	23	0	7	0	30	8	75	0	0	83	216
12:15 PM	0	0	0	0	0	0	85	14	0	99	16	0	9	0	25	7	73	0	0	80	204
12:30 PM	0	0	0	0	0	0	82	27	0	109	21	0	3	0	24	5	71	0	0	76	209
12:45 PM	0	0	0	0	0	0	88	30	1	119	22	0	8	0	30	4	84	0	0	88	237
Total	0	0	0	0	0	0	343	85	2	430	82	0	27	0	109	24	303	0	0	327	866
01:00 PM	0	0	0	0	0	0	81	16	0	97	25	0	5	0	30	4	83	0	0	87	214
01:15 PM	0	0	0	0	0	0	90	18	0	108	17	0	4	0	21	4	59	0	0	63	192
01:30 PM	0	0	0	0	0	0	84	21	0	105	15	0	9	0	24	6	78	0	0	84	213
01:45 PM	0	0	0	0	0	0	82	17	0	99	17	0	7	0	24	4	66	0	0	70	193
Total	0	0	0	0	0	0	337	72	0	409	74	0	25	0	99	18	286	0	0	304	812
Grand Total	0	0	0	0	0	0	982	212	2	1196	226	0	75	1	302	66	877	0	1	944	2442
Apprch %	0.0	0.0	0.0	0.0		0.0	82.1	17.7	0.2		74.8	0.0	24.8	0.3		7.0	92.9	0.0	0.1		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	40.2	8.7	0.1	49.0	9.3	0.0	3.1	0.0	12.4	2.7	35.9	0.0	0.0	38.7	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D24-2026
Collected By:CEP
Other Notes:

File Name : 2016-1~3
Site Code : 11111111
Start Date : 10/29/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D24-2026
Collected By:CEP
Other Notes:

File Name : 2016-1~3
Site Code : 11111111
Start Date : 10/29/2016
Page No : 1

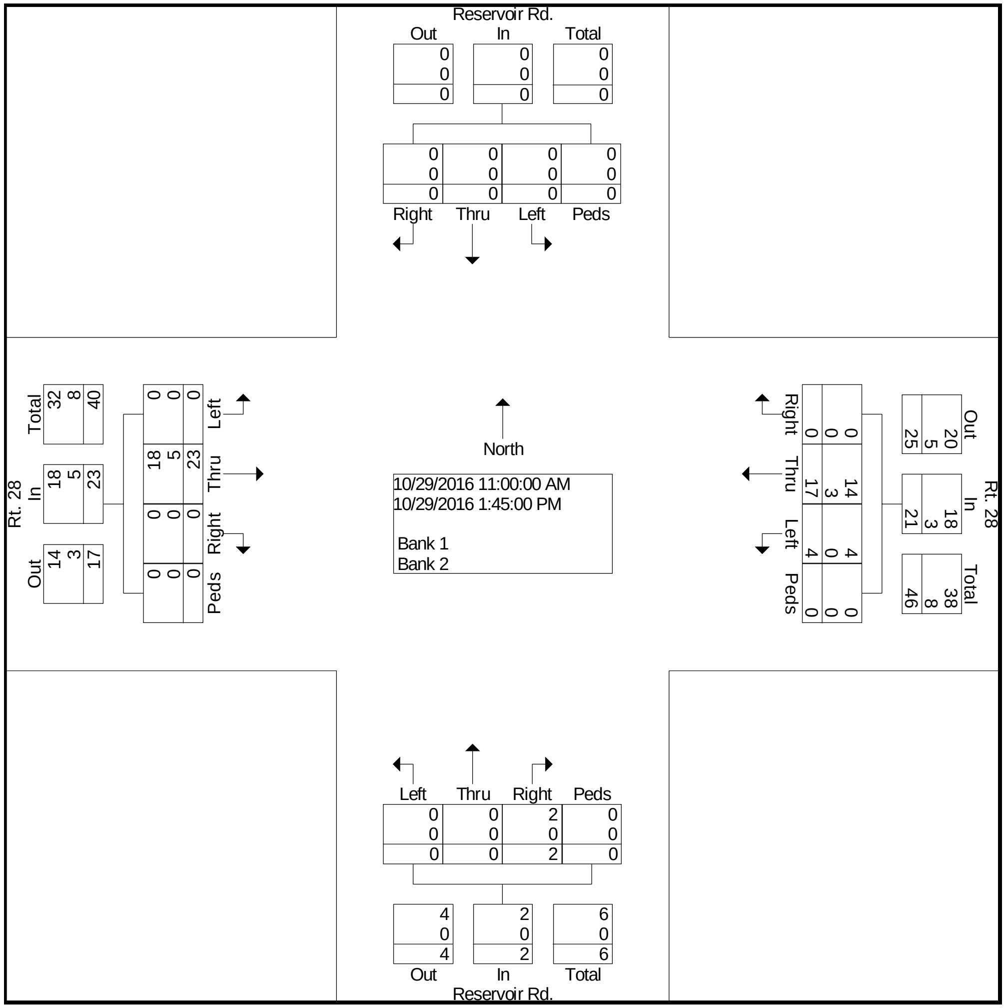
Groups Printed- Bank 1 - Bank 2

	Reservoir Rd. From North					Rt. 28 From East					Reservoir Rd. From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
11:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	4
Total	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	5	0	0	5	11
12:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
12:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
12:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	3
12:45 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	5
Total	0	0	0	0	0	0	7	2	0	9	0	0	0	0	0	0	8	0	0	8	17
01:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
01:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
01:30 PM	0	0	0	0	0	0	1	1	0	2	2	0	0	0	2	0	1	0	0	1	5
01:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	5	1	0	6	2	0	0	0	2	0	10	0	0	10	18
Grand Total	0	0	0	0	0	0	17	4	0	21	2	0	0	0	2	0	23	0	0	23	46
Apprch %	0.0	0.0	0.0	0.0		0.0	81.0	19.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	37.0	8.7	0.0	45.7	4.3	0.0	0.0	0.0	4.3	0.0	50.0	0.0	0.0	50.0	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Cloudy
Serial Number: D24-2026
Collected By:CEP
Other Notes:

File Name : 2016-1~3
Site Code : 11111111
Start Date : 10/29/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CMH
Other Notes:

File Name : LOCATI~2
Site Code : 00000111
Start Date : 11/1/2016
Page No : 1

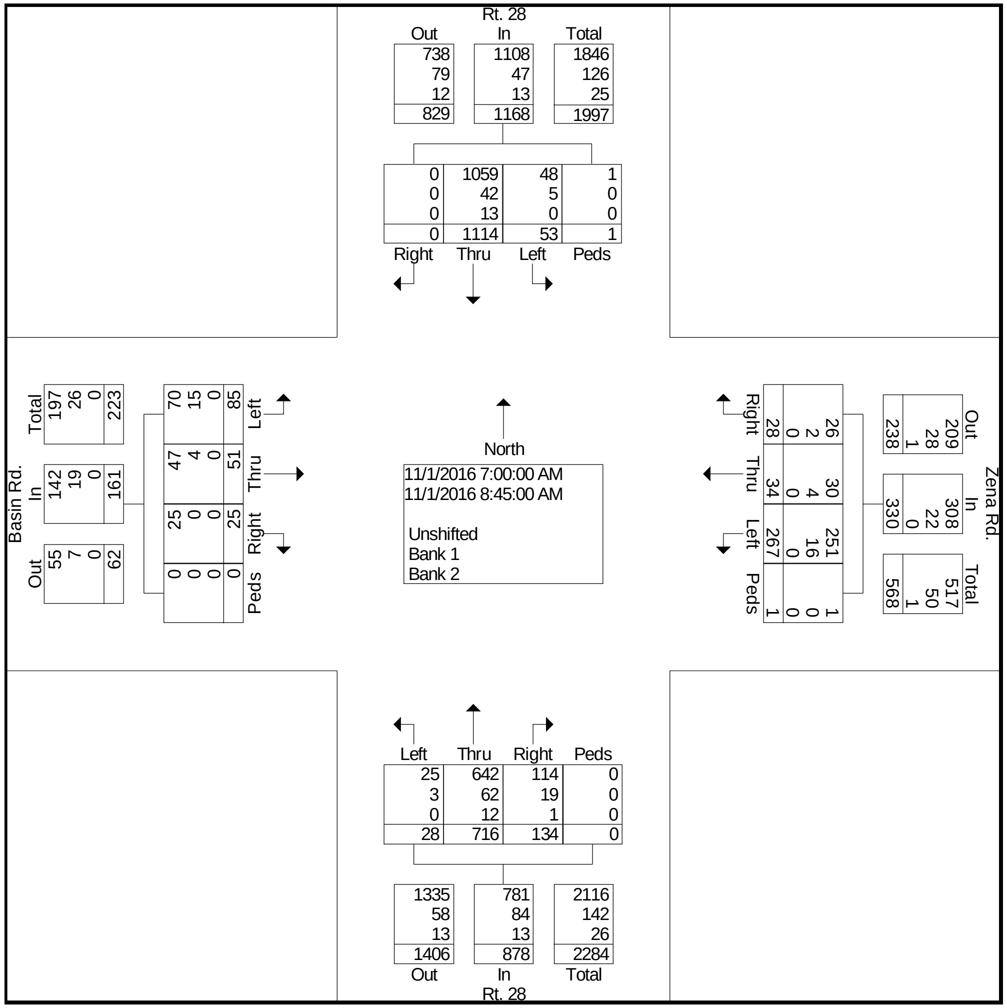
Groups Printed- Unshifted - Bank 1 - Bank 2

	Rt. 28 From North					Zena Rd. From East					Rt. 28 From South					Basin Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	114	3	0	117	2	7	27	0	36	7	70	1	0	78	3	6	8	0	17	248
07:15 AM	0	107	6	0	113	3	2	23	0	28	9	72	2	0	83	2	8	8	0	18	242
07:30 AM	0	145	8	0	153	2	5	28	0	35	12	80	4	0	96	3	6	11	0	20	304
07:45 AM	0	123	10	0	133	5	4	38	0	47	14	109	11	0	134	4	5	8	0	17	331
Total	0	489	27	0	516	12	18	116	0	146	42	331	18	0	391	12	25	35	0	72	1125
08:00 AM	0	120	3	0	123	4	2	37	0	43	22	96	5	0	123	2	10	13	0	25	314
08:15 AM	0	162	9	0	171	5	3	34	1	43	28	92	1	0	121	2	8	16	0	26	361
08:30 AM	0	160	5	0	165	5	4	40	0	49	20	93	0	0	113	4	6	9	0	19	346
08:45 AM	0	183	9	1	193	2	7	40	0	49	22	104	4	0	130	5	2	12	0	19	391
Total	0	625	26	1	652	16	16	151	1	184	92	385	10	0	487	13	26	50	0	89	1412
Grand Total	0	1114	53	1	1168	28	34	267	1	330	134	716	28	0	878	25	51	85	0	161	2537
Apprch %	0.0	95.4	4.5	0.1		8.5	10.3	80.9	0.3		15.3	81.5	3.2	0.0		15.5	31.7	52.8	0.0		
Total %	0.0	43.9	2.1	0.0	46.0	1.1	1.3	10.5	0.0	13.0	5.3	28.2	1.1	0.0	34.6	1.0	2.0	3.4	0.0	6.3	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CMH
Other Notes:

File Name : LOCATI~2
Site Code : 00000111
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CMH
Other Notes:

File Name : LOCATI~2
Site Code : 00000111
Start Date : 11/1/2016
Page No : 1

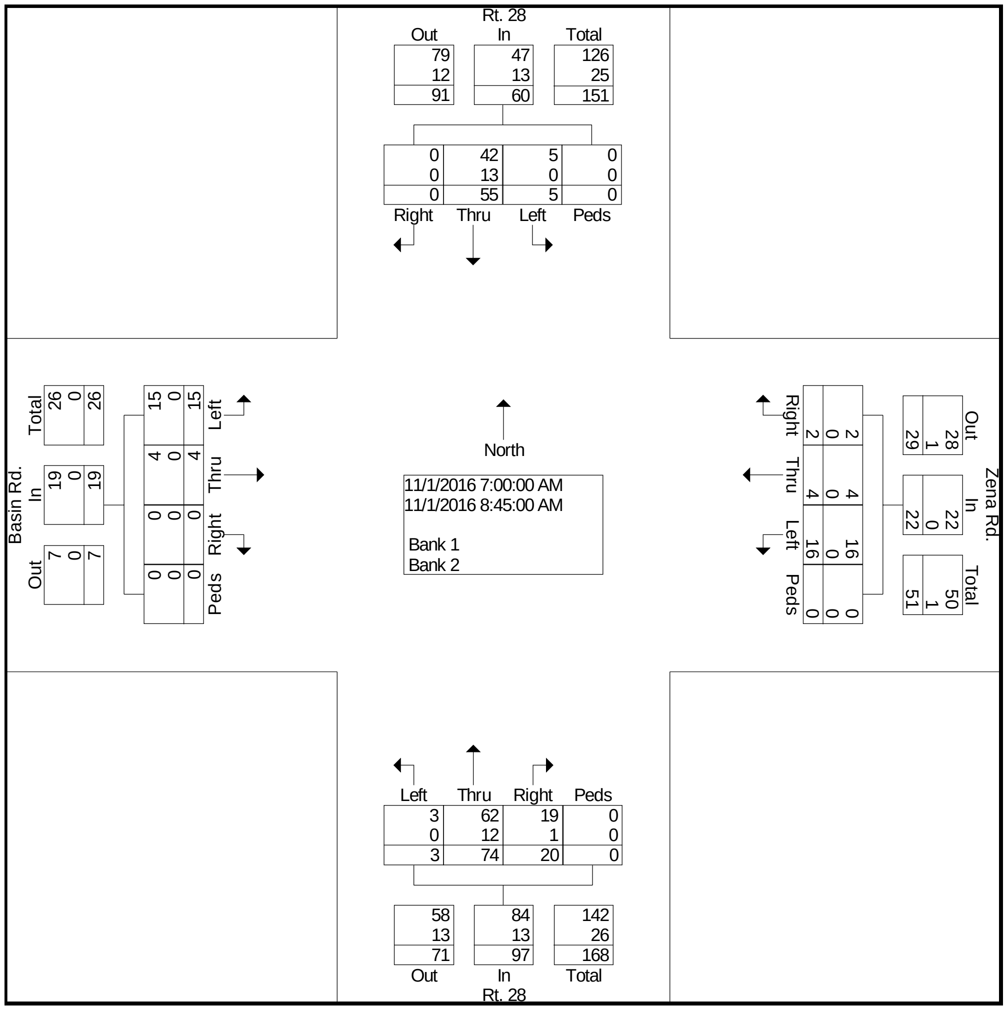
Groups Printed- Bank 1 - Bank 2

	Rt. 28 From North					Zena Rd. From East					Rt. 28 From South					Basin Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	4	0	0	4	0	0	1	0	1	0	9	0	0	9	0	1	1	0	2	16
07:15 AM	0	7	1	0	8	0	1	1	0	2	0	8	0	0	8	0	0	2	0	2	20
07:30 AM	0	8	0	0	8	0	2	2	0	4	4	11	2	0	17	0	1	3	0	4	33
07:45 AM	0	4	0	0	4	0	0	0	0	0	2	11	1	0	14	0	0	1	0	1	19
Total	0	23	1	0	24	0	3	4	0	7	6	39	3	0	48	0	2	7	0	9	88
08:00 AM	0	7	0	0	7	0	0	3	0	3	2	10	0	0	12	0	0	4	0	4	26
08:15 AM	0	10	2	0	12	1	0	3	0	4	6	8	0	0	14	0	1	1	0	2	32
08:30 AM	0	6	2	0	8	1	0	4	0	5	4	7	0	0	11	0	1	3	0	4	28
08:45 AM	0	9	0	0	9	0	1	2	0	3	2	10	0	0	12	0	0	0	0	0	24
Total	0	32	4	0	36	2	1	12	0	15	14	35	0	0	49	0	2	8	0	10	110
Grand Total	0	55	5	0	60	2	4	16	0	22	20	74	3	0	97	0	4	15	0	19	198
Apprch %	0.0	91.7	8.3	0.0		9.1	18.2	72.7	0.0		20.6	76.3	3.1	0.0		0.0	21.1	78.9	0.0		
Total %	0.0	27.8	2.5	0.0	30.3	1.0	2.0	8.1	0.0	11.1	10.1	37.4	1.5	0.0	49.0	0.0	2.0	7.6	0.0	9.6	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CMH
Other Notes:

File Name : LOCATI~2
Site Code : 00000111
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D- 2837
Collected By: CIS
Other Notes:

File Name : 008{I4~E
Site Code : 00000001
Start Date : 11/1/2016
Page No : 1

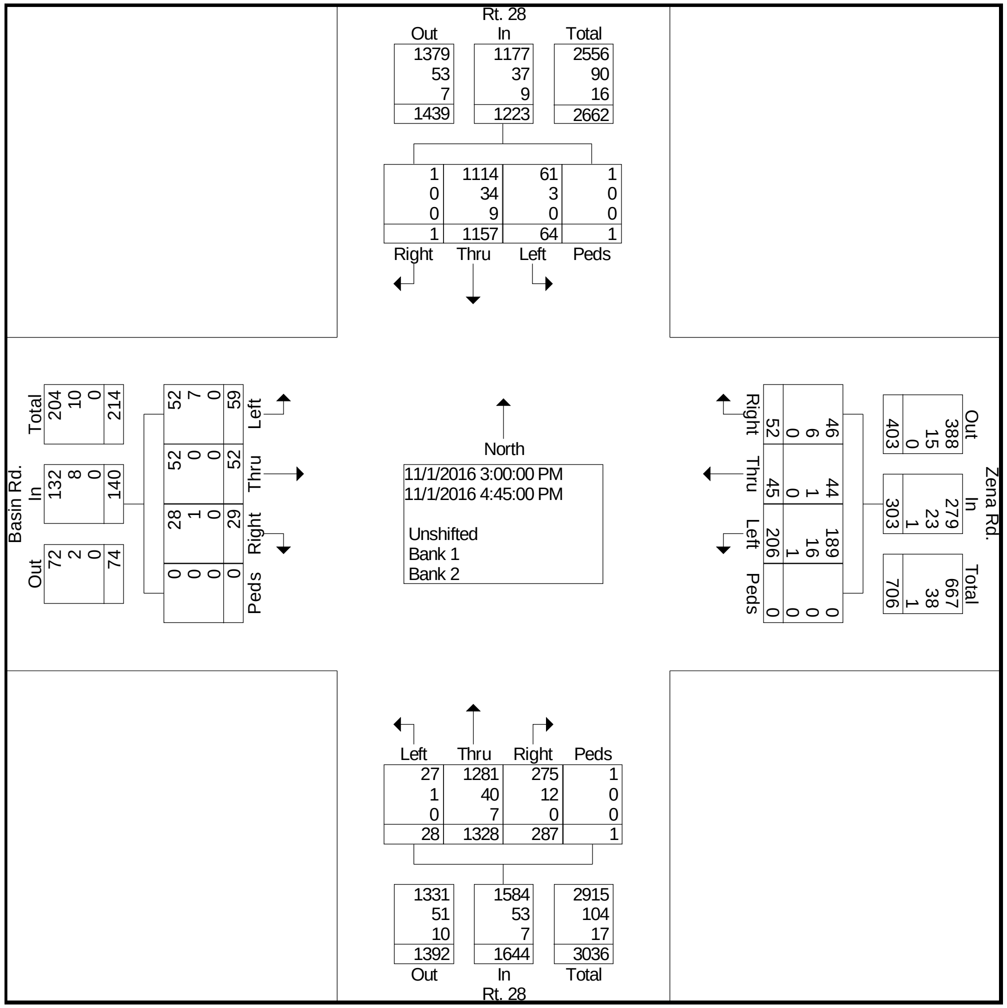
Groups Printed- Unshifted - Bank 1 - Bank 2

	Rt. 28 From North					Zena Rd. From East					Rt. 28 From South					Basin Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	145	10	0	155	8	6	22	0	36	30	151	3	0	184	3	7	8	0	18	393
03:15 PM	0	107	4	0	111	13	7	32	0	52	31	155	1	0	187	5	7	11	0	23	373
03:30 PM	0	161	8	0	169	5	5	34	0	44	41	174	1	0	216	2	5	8	0	15	444
03:45 PM	1	178	7	0	186	3	4	14	0	21	40	145	2	0	187	2	4	5	0	11	405
Total	1	591	29	0	621	29	22	102	0	153	142	625	7	0	774	12	23	32	0	67	1615
04:00 PM	0	137	9	0	146	6	4	21	0	31	35	164	2	0	201	4	8	5	0	17	395
04:15 PM	0	145	6	0	151	10	3	24	0	37	25	175	11	1	212	5	7	6	0	18	418
04:30 PM	0	143	10	0	153	4	7	30	0	41	50	170	2	0	222	3	8	8	0	19	435
04:45 PM	0	141	10	1	152	3	9	29	0	41	35	194	6	0	235	5	6	8	0	19	447
Total	0	566	35	1	602	23	23	104	0	150	145	703	21	1	870	17	29	27	0	73	1695
Grand Total	1	1157	64	1	1223	52	45	206	0	303	287	1328	28	1	1644	29	52	59	0	140	3310
Apprch %	0.1	94.6	5.2	0.1		17.2	14.9	68.0	0.0		17.5	80.8	1.7	0.1		20.7	37.1	42.1	0.0		
Total %	0.0	35.0	1.9	0.0	36.9	1.6	1.4	6.2	0.0	9.2	8.7	40.1	0.8	0.0	49.7	0.9	1.6	1.8	0.0	4.2	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D- 2837
Collected By: CIS
Other Notes:

File Name : 008{I4~E
Site Code : 00000001
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D- 2837
Collected By: CIS
Other Notes:

File Name : 008{I4~E
Site Code : 00000001
Start Date : 11/1/2016
Page No : 1

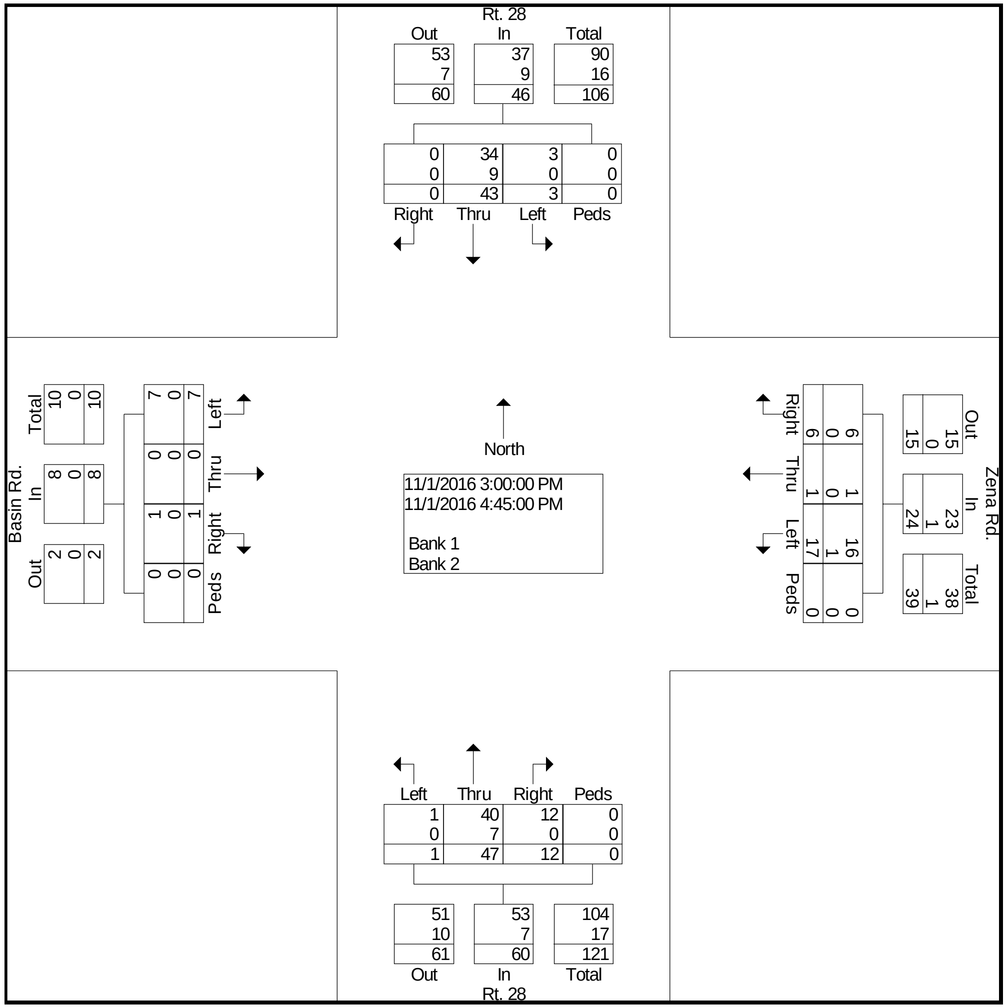
Groups Printed- Bank 1 - Bank 2

	Rt. 28 From North					Zena Rd. From East					Rt. 28 From South					Basin Rd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	8	3	0	11	1	0	1	0	2	3	9	0	0	12	0	0	1	0	1	26
03:15 PM	0	5	0	0	5	3	0	4	0	7	2	5	0	0	7	0	0	3	0	3	22
03:30 PM	0	4	0	0	4	0	0	6	0	6	1	6	0	0	7	0	0	0	0	0	17
03:45 PM	0	7	0	0	7	0	0	1	0	1	3	7	0	0	10	1	0	0	0	1	19
Total	0	24	3	0	27	4	0	12	0	16	9	27	0	0	36	1	0	4	0	5	84
04:00 PM	0	4	0	0	4	0	1	3	0	4	1	6	0	0	7	0	0	0	0	0	15
04:15 PM	0	4	0	0	4	2	0	1	0	3	1	2	1	0	4	0	0	0	0	0	11
04:30 PM	0	5	0	0	5	0	0	1	0	1	1	10	0	0	11	0	0	1	0	1	18
04:45 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	10
Total	0	19	0	0	19	2	1	5	0	8	3	20	1	0	24	0	0	3	0	3	54
Grand Total	0	43	3	0	46	6	1	17	0	24	12	47	1	0	60	1	0	7	0	8	138
Apprch %	0.0	93.5	6.5	0.0		25.0	4.2	70.8	0.0		20.0	78.3	1.7	0.0		12.5	0.0	87.5	0.0		
Total %	0.0	31.2	2.2	0.0	33.3	4.3	0.7	12.3	0.0	17.4	8.7	34.1	0.7	0.0	43.5	0.7	0.0	5.1	0.0	5.8	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D- 2837
Collected By: CIS
Other Notes:

File Name : 008{I4~E
Site Code : 00000001
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CIS
Other Notes:

File Name : 20CF00~1
Site Code : 00000002
Start Date : 11/1/2016
Page No : 1

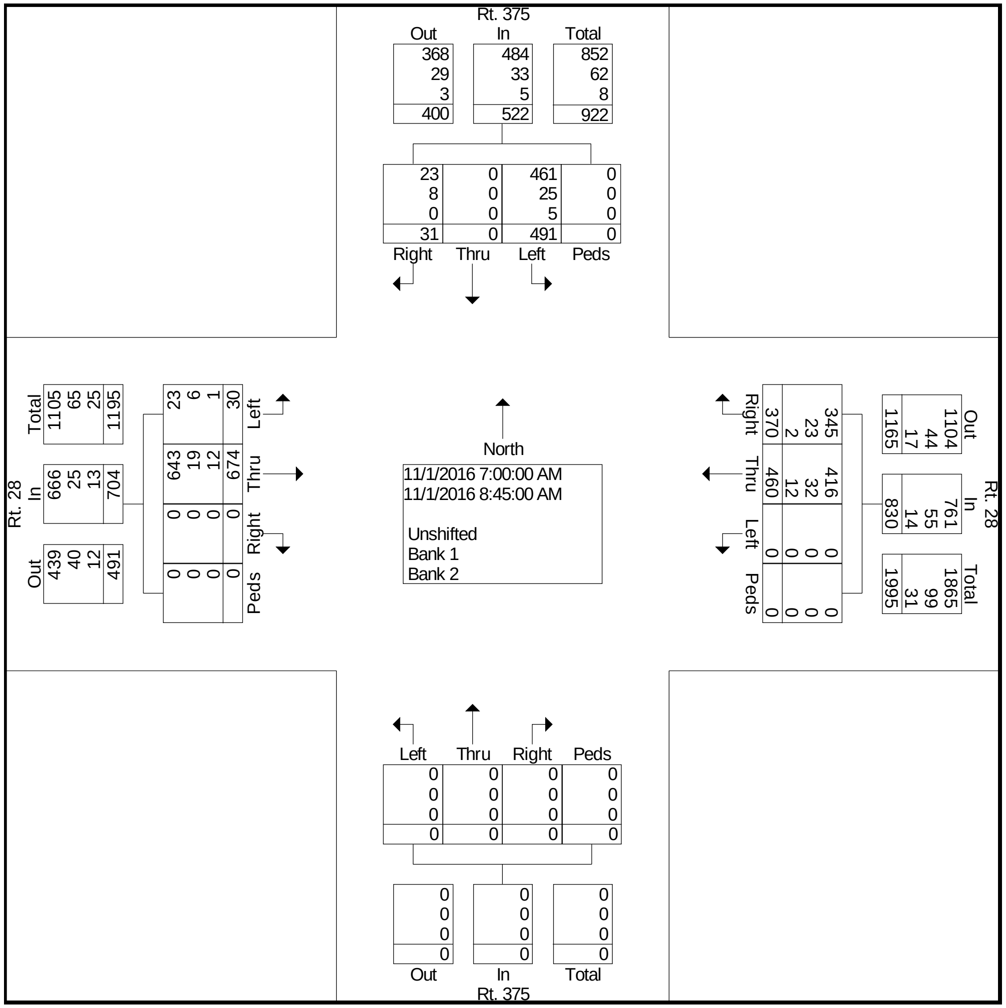
Groups Printed- Unshifted - Bank 1 - Bank 2

	Rt. 375 From North					Rt. 28 From East					Rt. 375 From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	8	0	45	0	53	29	52	0	0	81	0	0	0	0	0	0	59	2	0	61	195
07:15 AM	4	0	47	0	51	24	61	0	0	85	0	0	0	0	0	0	68	2	0	70	206
07:30 AM	3	0	57	0	60	42	49	0	0	91	0	0	0	0	0	0	98	6	0	104	255
07:45 AM	1	0	50	0	51	49	64	0	0	113	0	0	0	0	0	0	67	9	0	76	240
Total	16	0	199	0	215	144	226	0	0	370	0	0	0	0	0	0	292	19	0	311	896
08:00 AM	3	0	56	0	59	53	65	0	0	118	0	0	0	0	0	0	85	0	0	85	262
08:15 AM	7	0	73	0	80	55	57	0	0	112	0	0	0	0	0	0	88	1	0	89	281
08:30 AM	2	0	72	0	74	58	49	0	0	107	0	0	0	0	0	0	116	4	0	120	301
08:45 AM	3	0	91	0	94	60	63	0	0	123	0	0	0	0	0	0	93	6	0	99	316
Total	15	0	292	0	307	226	234	0	0	460	0	0	0	0	0	0	382	11	0	393	1160
Grand Total	31	0	491	0	522	370	460	0	0	830	0	0	0	0	0	0	674	30	0	704	2056
Apprch %	5.9	0.0	94.1	0.0		44.6	55.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.7	4.3	0.0		
Total %	1.5	0.0	23.9	0.0	25.4	18.0	22.4	0.0	0.0	40.4	0.0	0.0	0.0	0.0	0.0	0.0	32.8	1.5	0.0	34.2	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CIS
Other Notes:

File Name : 20CF00~1
Site Code : 00000002
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CIS
Other Notes:

File Name : 20CF00~1
Site Code : 00000002
Start Date : 11/1/2016
Page No : 1

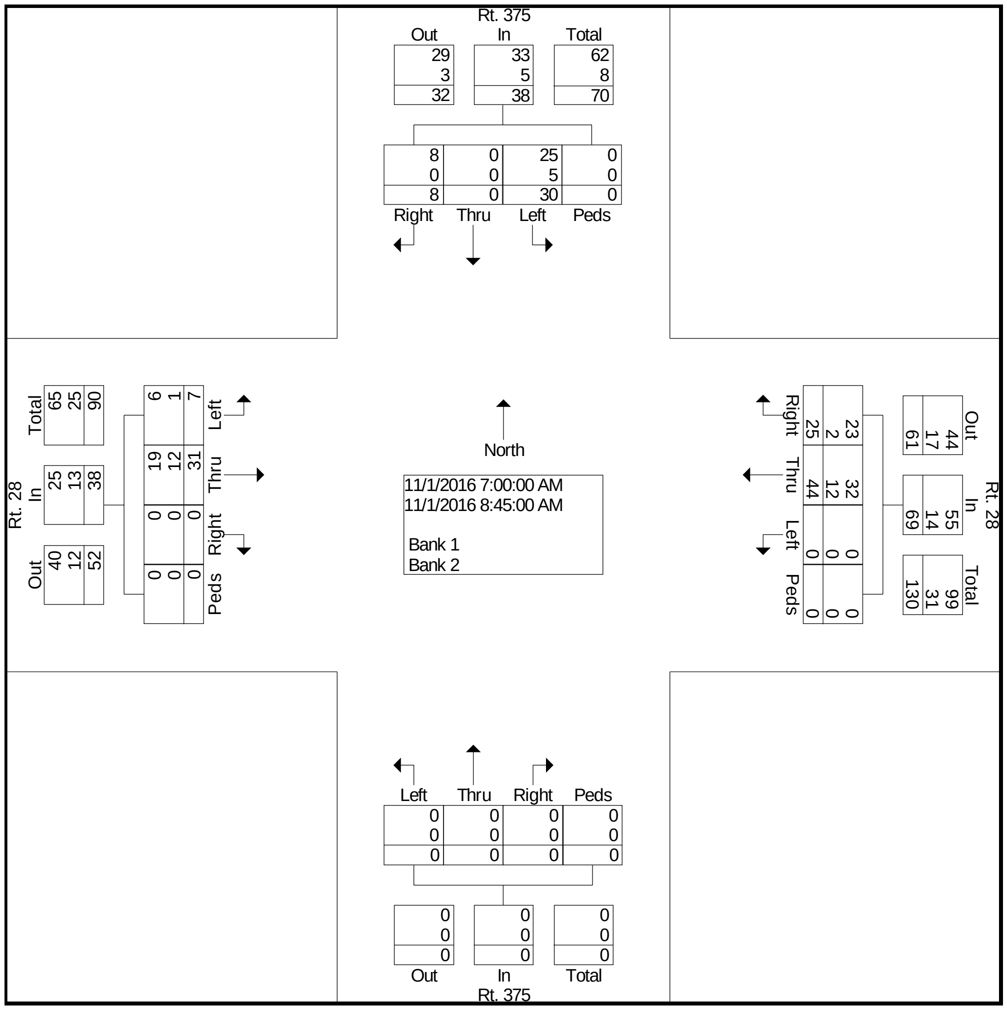
Groups Printed- Bank 1 - Bank 2

	Rt. 375 From North					Rt. 28 From East					Rt. 375 From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	4	0	1	0	5	1	6	0	0	7	0	0	0	0	0	0	1	0	0	1	13
07:15 AM	0	0	2	0	2	2	6	0	0	8	0	0	0	0	0	0	3	0	0	3	13
07:30 AM	0	0	2	0	2	2	6	0	0	8	0	0	0	0	0	0	4	1	0	5	15
07:45 AM	0	0	1	0	1	3	7	0	0	10	0	0	0	0	0	0	5	3	0	8	19
Total	4	0	6	0	10	8	25	0	0	33	0	0	0	0	0	0	13	4	0	17	60
08:00 AM	1	0	6	0	7	6	4	0	0	10	0	0	0	0	0	0	4	0	0	4	21
08:15 AM	3	0	9	0	12	3	2	0	0	5	0	0	0	0	0	0	5	0	0	5	22
08:30 AM	0	0	6	0	6	5	6	0	0	11	0	0	0	0	0	0	6	2	0	8	25
08:45 AM	0	0	3	0	3	3	7	0	0	10	0	0	0	0	0	0	3	1	0	4	17
Total	4	0	24	0	28	17	19	0	0	36	0	0	0	0	0	0	18	3	0	21	85
Grand Total	8	0	30	0	38	25	44	0	0	69	0	0	0	0	0	0	31	7	0	38	145
Apprch %	21.1	0.0	78.9	0.0		36.2	63.8	0.0	0.0		0.0	0.0	0.0	0.0		0.0	81.6	18.4	0.0		
Total %	5.5	0.0	20.7	0.0	26.2	17.2	30.3	0.0	0.0	47.6	0.0	0.0	0.0	0.0	0.0	0.0	21.4	4.8	0.0	26.2	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Fog
Serial Number: D4-2839
Collected By: CIS
Other Notes:

File Name : 20CF00~1
Site Code : 00000002
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D4-2839
Collected By: ZTB
Other Notes:

File Name : untitled6
Site Code : 00000002
Start Date : 11/1/2016
Page No : 1

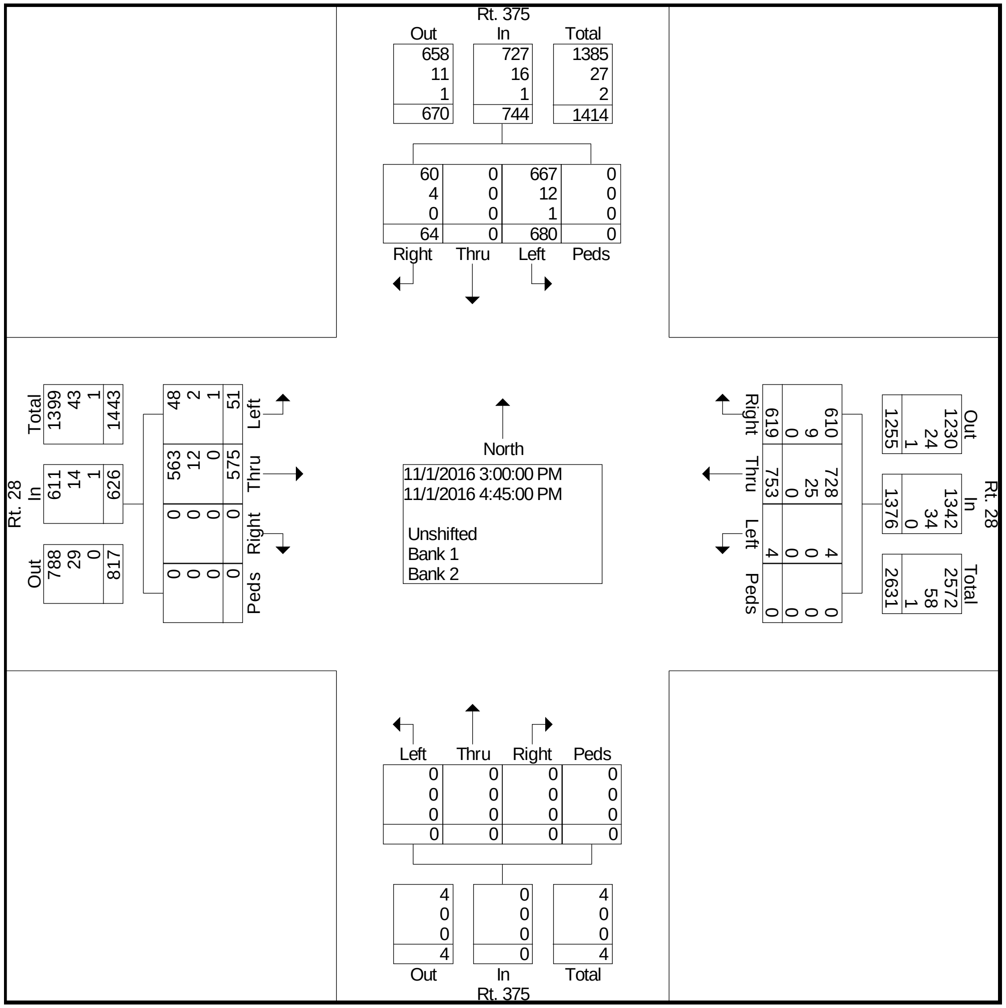
Groups Printed- Unshifted - Bank 1 - Bank 2

	Rt. 375 From North					Rt. 28 From East					Rt. 375 From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	5	0	74	0	79	88	61	0	0	149	0	0	0	0	0	0	69	3	0	72	300
03:15 PM	8	0	69	0	77	81	95	0	0	176	0	0	0	0	0	0	65	3	0	68	321
03:30 PM	5	0	119	0	124	74	110	0	0	184	0	0	0	0	0	0	77	8	0	85	393
03:45 PM	7	0	97	0	104	64	92	4	0	160	0	0	0	0	0	0	86	11	0	97	361
Total	25	0	359	0	384	307	358	4	0	669	0	0	0	0	0	0	297	25	0	322	1375
04:00 PM	7	0	81	0	88	74	81	0	0	155	0	0	0	0	0	0	72	5	0	77	320
04:15 PM	10	0	87	0	97	77	115	0	0	192	0	0	0	0	0	0	59	5	0	64	353
04:30 PM	8	0	72	0	80	72	94	0	0	166	0	0	0	0	0	0	65	11	0	76	322
04:45 PM	14	0	81	0	95	89	105	0	0	194	0	0	0	0	0	0	82	5	0	87	376
Total	39	0	321	0	360	312	395	0	0	707	0	0	0	0	0	0	278	26	0	304	1371
Grand Total	64	0	680	0	744	619	753	4	0	1376	0	0	0	0	0	0	575	51	0	626	2746
Apprch %	8.6	0.0	91.4	0.0		45.0	54.7	0.3	0.0		0.0	0.0	0.0	0.0		0.0	91.9	8.1	0.0		
Total %	2.3	0.0	24.8	0.0	27.1	22.5	27.4	0.1	0.0	50.1	0.0	0.0	0.0	0.0	0.0	0.0	20.9	1.9	0.0	22.8	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D4-2839
Collected By: ZTB
Other Notes:

File Name : untitled6
Site Code : 00000002
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D4-2839
Collected By: ZTB
Other Notes:

File Name : untitled6
Site Code : 00000002
Start Date : 11/1/2016
Page No : 1

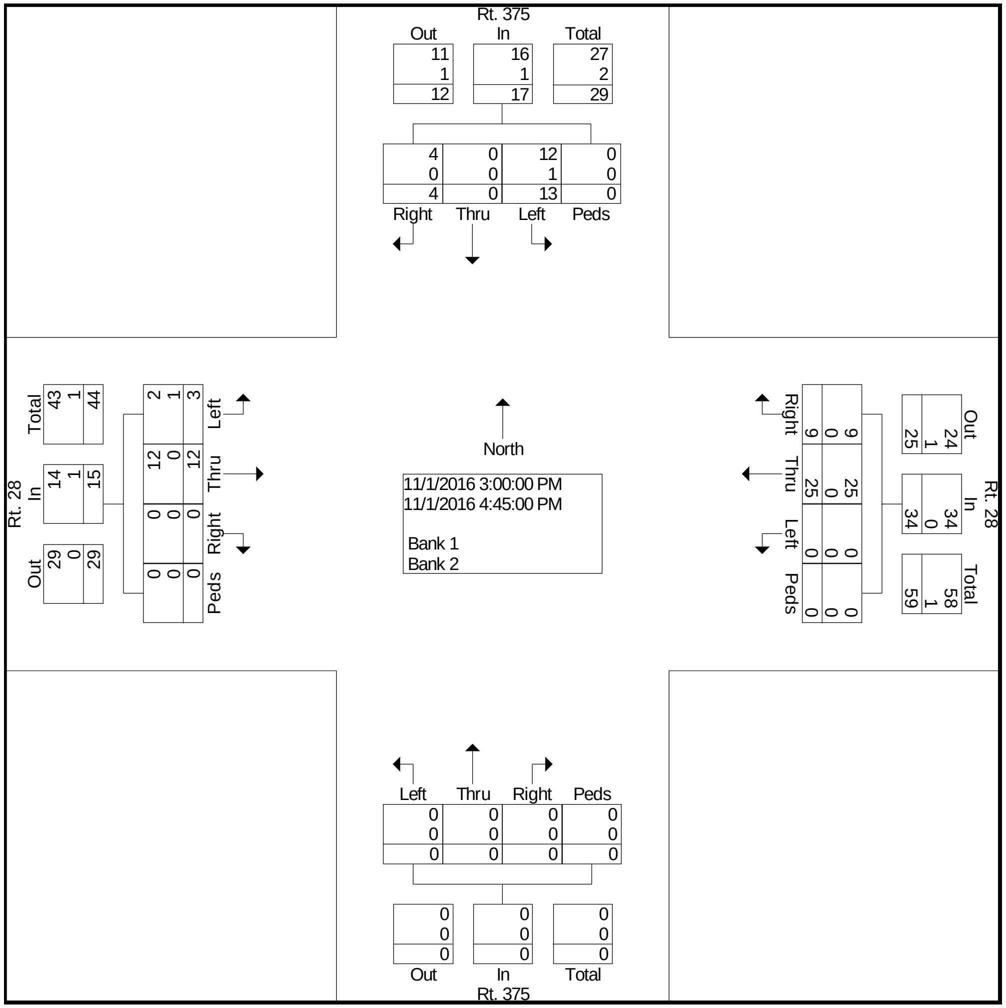
Groups Printed- Bank 1 - Bank 2

	Rt. 375 From North					Rt. 28 From East					Rt. 375 From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	1	0	0	1	7
03:15 PM	1	0	1	0	2	4	5	0	0	9	0	0	0	0	0	0	2	0	0	2	13
03:30 PM	0	0	2	0	2	2	3	0	0	5	0	0	0	0	0	0	3	0	0	3	10
03:45 PM	1	0	2	0	3	0	4	0	0	4	0	0	0	0	0	0	1	1	0	2	9
Total	2	0	6	0	8	7	16	0	0	23	0	0	0	0	0	0	7	1	0	8	39
04:00 PM	1	0	2	0	3	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	8
04:15 PM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	1	1	0	2	5
04:45 PM	1	0	4	0	5	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	10
Total	2	0	7	0	9	2	9	0	0	11	0	0	0	0	0	0	5	2	0	7	27
Grand Total	4	0	13	0	17	9	25	0	0	34	0	0	0	0	0	0	12	3	0	15	66
Apprch %	23.5	0.0	76.5	0.0		26.5	73.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	80.0	20.0	0.0		
Total %	6.1	0.0	19.7	0.0	25.8	13.6	37.9	0.0	0.0	51.5	0.0	0.0	0.0	0.0	0.0	0.0	18.2	4.5	0.0	22.7	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D4-2839
Collected By: ZTB
Other Notes:

File Name : untitled6
Site Code : 00000002
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather:Fog
Serial Number:D-2026
Collected By:DPC
Other Notes:

File Name : 2016-11-1 Location 3
Site Code : 00000031
Start Date : 11/1/2016
Page No : 1

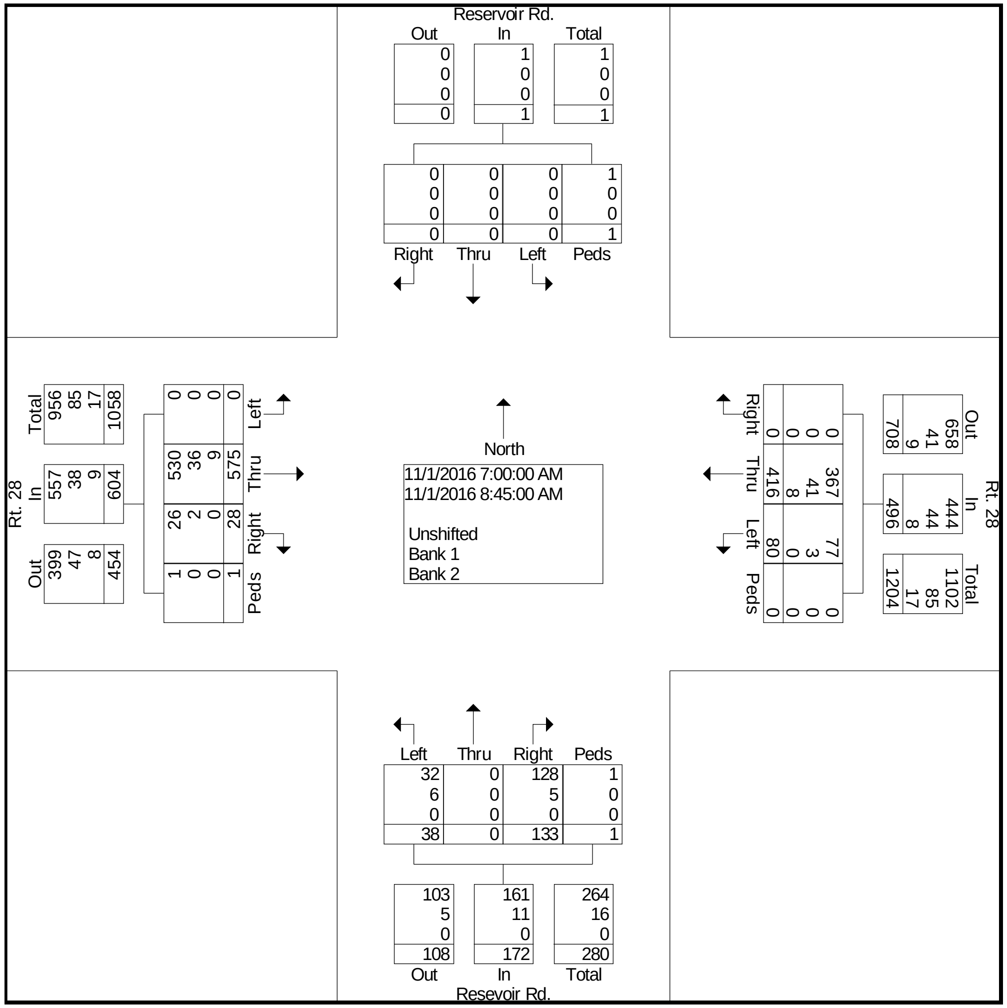
Groups Printed- Unshifted - Bank 1 - Bank 2

	Reservoir Rd. From North					Rt. 28 From East					Resevoir Rd. From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	1	1	0	49	7	0	56	10	0	6	0	16	2	40	0	0	42	115
07:15 AM	0	0	0	0	0	0	83	8	0	91	12	0	7	0	19	1	62	0	0	63	173
07:30 AM	0	0	0	0	0	0	41	13	0	54	20	0	3	0	23	8	89	0	0	97	174
07:45 AM	0	0	0	0	0	0	51	10	0	61	9	0	2	0	11	5	66	0	1	72	144
Total	0	0	0	1	1	0	224	38	0	262	51	0	18	0	69	16	257	0	1	274	606
08:00 AM	0	0	0	0	0	0	48	8	0	56	20	0	4	1	25	2	74	0	0	76	157
08:15 AM	0	0	0	0	0	0	55	10	0	65	22	0	8	0	30	3	60	0	0	63	158
08:30 AM	0	0	0	0	0	0	39	15	0	54	21	0	8	0	29	2	88	0	0	90	173
08:45 AM	0	0	0	0	0	0	50	9	0	59	19	0	0	0	19	5	96	0	0	101	179
Total	0	0	0	0	0	0	192	42	0	234	82	0	20	1	103	12	318	0	0	330	667
Grand Total	0	0	0	1	1	0	416	80	0	496	133	0	38	1	172	28	575	0	1	604	1273
Apprch %	0.0	0.0	0.0	100.0		0.0	83.9	16.1	0.0		77.3	0.0	22.1	0.6		4.6	95.2	0.0	0.2		
Total %	0.0	0.0	0.0	0.1	0.1	0.0	32.7	6.3	0.0	39.0	10.4	0.0	3.0	0.1	13.5	2.2	45.2	0.0	0.1	47.4	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather:Fog
Serial Number:D-2026
Collected By:DPC
Other Notes:

File Name : 2016-11-1 Location 3
Site Code : 00000031
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather:Fog
Serial Number:D-2026
Collected By:DPC
Other Notes:

File Name : 2016-11-1 Location 3
Site Code : 00000031
Start Date : 11/1/2016
Page No : 1

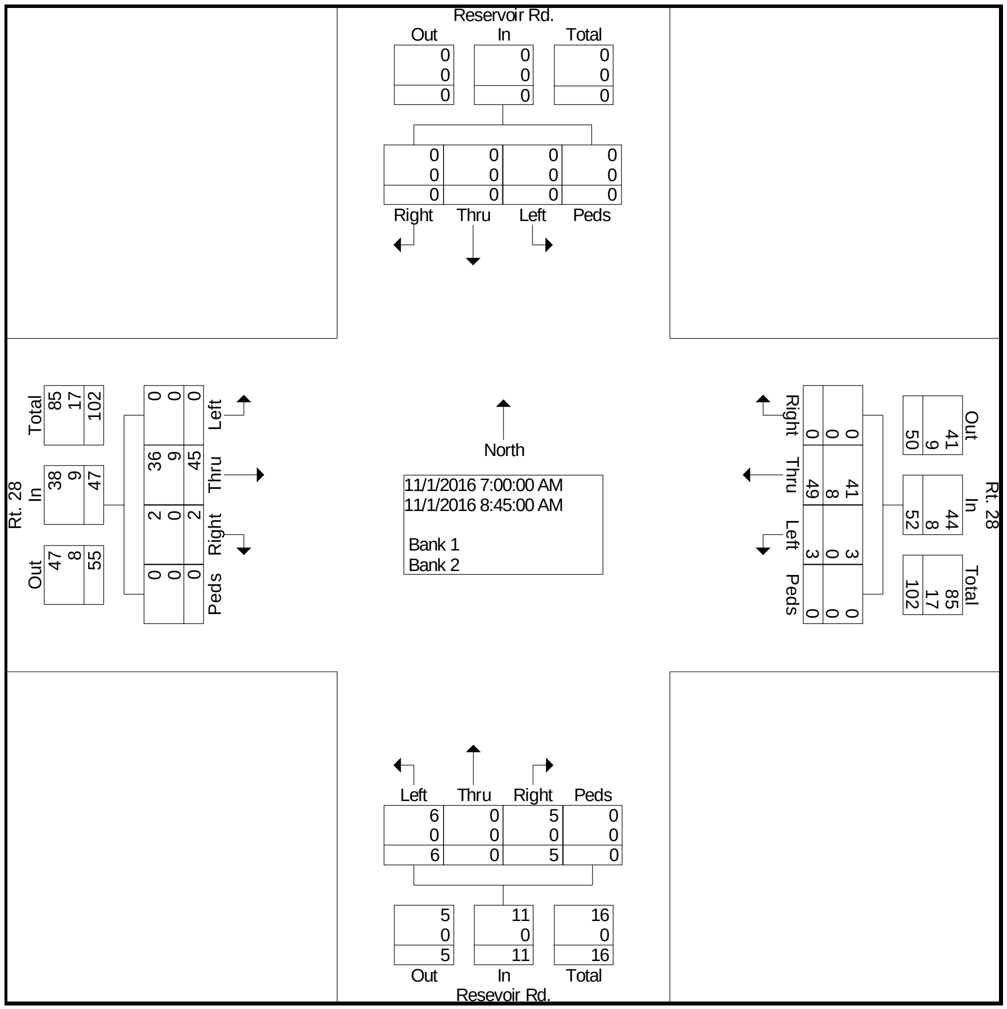
Groups Printed- Bank 1 - Bank 2

	Reservoir Rd. From North					Rt. 28 From East					Resevoir Rd. From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	2	0	2	0	1	0	0	1	11
07:15 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	3	0	0	3	14
07:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	11	0	0	11	16
07:45 AM	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	1	7	0	0	8	12
Total	0	0	0	0	0	0	26	1	0	27	1	0	2	0	3	1	22	0	0	23	53
08:00 AM	0	0	0	0	0	0	8	2	0	10	1	0	1	0	2	0	0	0	0	0	12
08:15 AM	0	0	0	0	0	0	3	0	0	3	1	0	1	0	2	0	4	0	0	4	9
08:30 AM	0	0	0	0	0	0	5	0	0	5	1	0	2	0	3	0	6	0	0	6	14
08:45 AM	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	1	13	0	0	14	22
Total	0	0	0	0	0	0	23	2	0	25	4	0	4	0	8	1	23	0	0	24	57
Grand Total	0	0	0	0	0	0	49	3	0	52	5	0	6	0	11	2	45	0	0	47	110
Apprch %	0.0	0.0	0.0	0.0		0.0	94.2	5.8	0.0		45.5	0.0	54.5	0.0		4.3	95.7	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	44.5	2.7	0.0	47.3	4.5	0.0	5.5	0.0	10.0	1.8	40.9	0.0	0.0	42.7	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather:Fog
Serial Number:D-2026
Collected By:DPC
Other Notes:

File Name : 2016-11-1 Location 3
Site Code : 00000031
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D-2026
Collected By: ERB
Other Notes:

File Name : untitled2
Site Code : 33333333
Start Date : 11/1/2016
Page No : 1

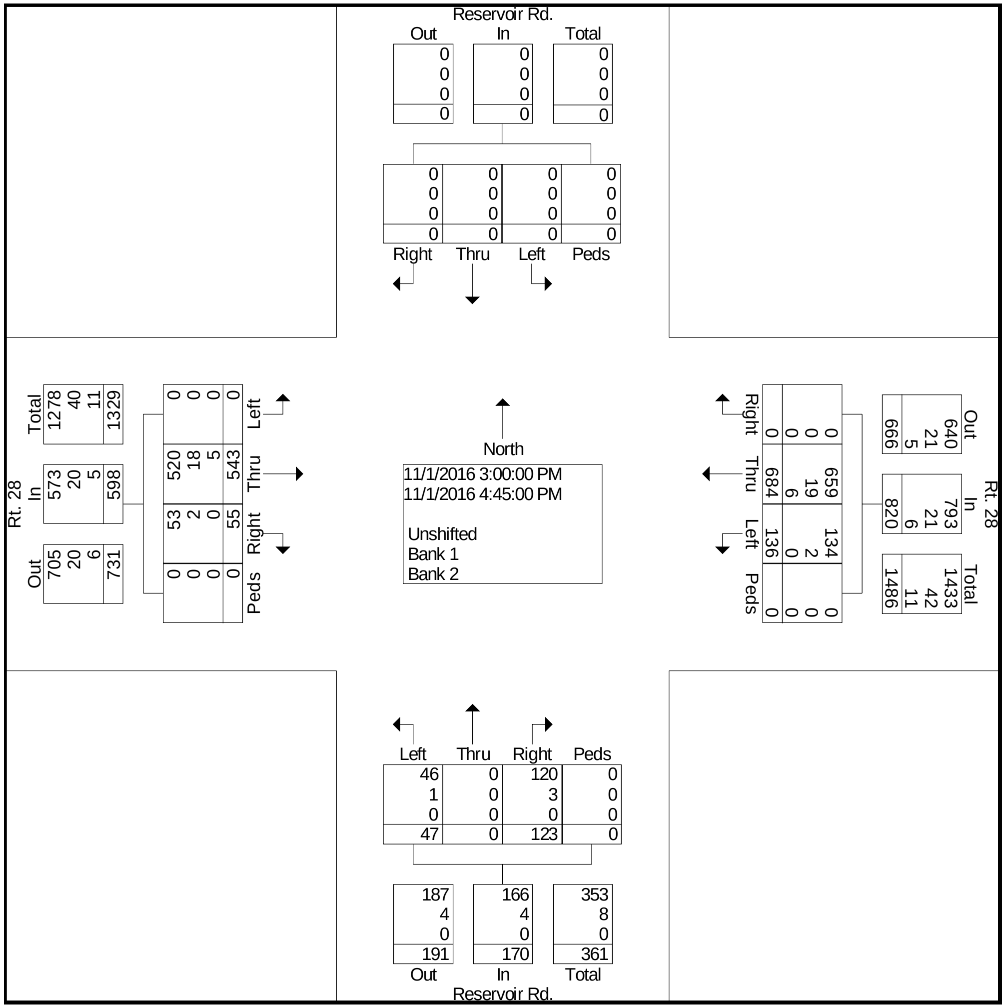
Groups Printed- Unshifted - Bank 1 - Bank 2

	Reservoir Rd. From North					Rt. 28 From East					Reservoir Rd. From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	0	0	0	0	0	72	14	0	86	19	0	10	0	29	7	58	0	0	65	180
03:15 PM	0	0	0	0	0	0	65	7	0	72	20	0	3	0	23	5	61	0	0	66	161
03:30 PM	0	0	0	0	0	0	93	23	0	116	16	0	6	0	22	10	87	0	0	97	235
03:45 PM	0	0	0	0	0	0	85	24	0	109	14	0	5	0	19	6	56	0	0	62	190
Total	0	0	0	0	0	0	315	68	0	383	69	0	24	0	93	28	262	0	0	290	766
04:00 PM	0	0	0	0	0	0	89	13	0	102	13	0	6	0	19	9	73	0	0	82	203
04:15 PM	0	0	0	0	0	0	91	14	0	105	13	0	3	0	16	6	70	0	0	76	197
04:30 PM	0	0	0	0	0	0	90	25	0	115	14	0	6	0	20	7	73	0	0	80	215
04:45 PM	0	0	0	0	0	0	99	16	0	115	14	0	8	0	22	5	65	0	0	70	207
Total	0	0	0	0	0	0	369	68	0	437	54	0	23	0	77	27	281	0	0	308	822
Grand Total	0	0	0	0	0	0	684	136	0	820	123	0	47	0	170	55	543	0	0	598	1588
Apprch %	0.0	0.0	0.0	0.0		0.0	83.4	16.6	0.0		72.4	0.0	27.6	0.0		9.2	90.8	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	43.1	8.6	0.0	51.6	7.7	0.0	3.0	0.0	10.7	3.5	34.2	0.0	0.0	37.7	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D-2026
Collected By: ERB
Other Notes:

File Name : untitled2
Site Code : 33333333
Start Date : 11/1/2016
Page No : 2



Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D-2026
Collected By: ERB
Other Notes:

File Name : untitled2
Site Code : 33333333
Start Date : 11/1/2016
Page No : 1

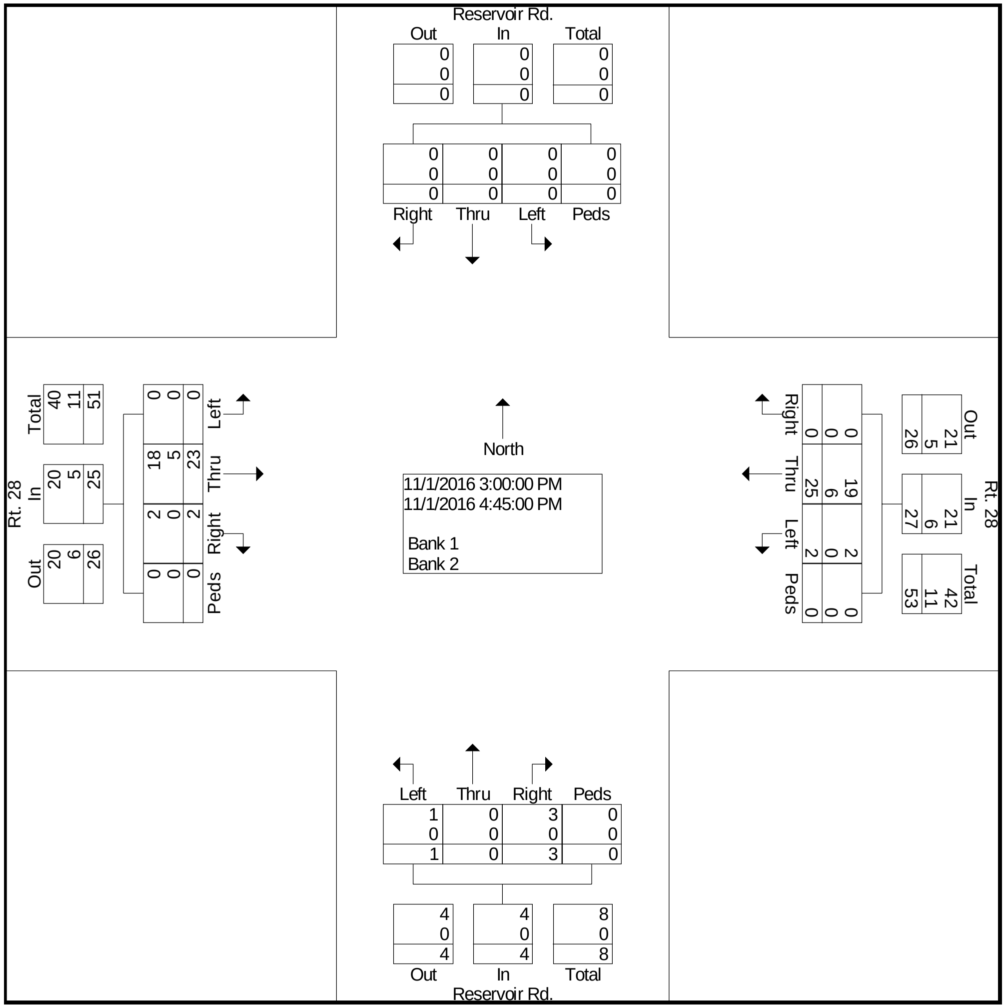
Groups Printed- Bank 1 - Bank 2

	Reservoir Rd. From North					Rt. 28 From East					Reservoir Rd. From South					Rt. 28 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	0	0	0	0	0	3	0	0	3	2	0	0	0	2	0	0	0	0	0	5
03:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
03:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	10
03:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	2	0	0	3	6
Total	0	0	0	0	0	0	16	0	0	16	2	0	0	0	2	1	11	0	0	12	30
04:00 PM	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	3	0	0	3	6
04:30 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	1	4	0	0	5	10
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
Total	0	0	0	0	0	0	9	2	0	11	1	0	1	0	2	1	12	0	0	13	26
Grand Total	0	0	0	0	0	0	25	2	0	27	3	0	1	0	4	2	23	0	0	25	56
Apprch %	0.0	0.0	0.0	0.0		0.0	92.6	7.4	0.0		75.0	0.0	25.0	0.0		8.0	92.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	44.6	3.6	0.0	48.2	5.4	0.0	1.8	0.0	7.1	3.6	41.1	0.0	0.0	44.6	

Barton and Loguidice D.P.C.
10 Airline Drive
Albany, NY 12205

Weather: Partly Cloudy
Serial Number: D-2026
Collected By: ERB
Other Notes:

File Name : untitled2
Site Code : 33333333
Start Date : 11/1/2016
Page No : 2



Appendix B

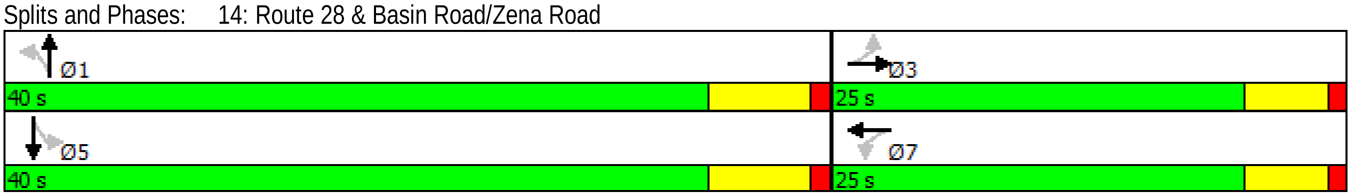
Existing Conditions Synchro Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	13	15	92	26	19	27	685	96	37	551	1
Future Volume (vph)	49	13	15	92	26	19	27	685	96	37	551	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.973			0.981			0.982				
Flt Protected		0.969			0.968			0.998			0.997	
Satd. Flow (prot)	0	1745	0	0	1733	0	0	3504	0	0	3509	0
Flt Permitted		0.760			0.754			0.923			0.871	
Satd. Flow (perm)	0	1369	0	0	1350	0	0	3240	0	0	3066	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			13			34				
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		295			409			373			284	
Travel Time (s)		5.7			6.2			5.7			4.3	
Peak Hour Factor	0.96	0.96	0.96	0.84	0.84	0.84	0.96	0.96	0.96	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	7%	4%	4%	5%	4%	1%	0%	11%	2%	0%
Adj. Flow (vph)	51	14	16	110	31	23	28	714	100	39	586	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	0	0	164	0	0	842	0	0	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left	Left		Left	Left		Left			Left		
Leading Detector (ft)	20	20		20	20		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			7			1			5	
Permitted Phases	3			7			1			5		
Detector Phase	3	3		7	7		1	1		5	5	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		40.0	40.0		40.0	40.0	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0		40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%		61.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0		34.0	34.0		34.0	34.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.5			11.7			39.2			39.2	
Actuated g/C Ratio		0.20			0.20			0.67			0.67	
v/c Ratio		0.29			0.58			0.38			0.30	
Control Delay		18.2			27.3			6.7			6.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.2			27.3			6.7			6.4	
LOS		B			C			A			A	
Approach Delay		18.2			27.3			6.7			6.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		18			46			64			47	
Queue Length 95th (ft)		48			87			130			96	
Internal Link Dist (ft)		215			329			293			204	
Turn Bay Length (ft)												
Base Capacity (vph)		482			473			2191			2063	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.17			0.35			0.38			0.30	

Intersection Summary	
Area Type: Other	
Cycle Length: 65	
Actuated Cycle Length: 58.2	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 61.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: Route 28 & Basin Road/Zena Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	314	373	352	305	43
Future Volume (vph)	40	314	373	352	305	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt				0.850	0.983	
Flt Protected		0.994			0.958	
Satd. Flow (prot)	0	3518	1881	1599	1754	0
Flt Permitted		0.878			0.958	
Satd. Flow (perm)	0	3107	1881	1599	1754	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					10	
Link Speed (mph)		45	45		40	
Link Distance (ft)		448	397		403	
Travel Time (s)		6.8	6.0		6.9	
Peak Hour Factor	0.89	0.89	0.97	0.97	0.86	0.86
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Adj. Flow (vph)	45	353	385	363	355	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	398	385	363	405	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template	Left			Right	Left	
Leading Detector (ft)	20	6	6	20	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	NA	pt+ov	Prot	
Protected Phases		5	1	1 3	3	
Permitted Phases	5					
Detector Phase	5	5	1	1 3	3	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		6.0	
Minimum Split (s)	16.0	16.0	16.0		11.0	
Total Split (s)	46.0	46.0	46.0		35.0	
Total Split (%)	56.8%	56.8%	56.8%		43.2%	
Maximum Green (s)	40.0	40.0	40.0		30.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	5.0	5.0	5.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)		40.3	40.3	72.8	21.5	
Actuated g/C Ratio		0.55	0.55	1.00	0.30	
v/c Ratio		0.23	0.37	0.23	0.77	
Control Delay		9.8	11.7	0.3	33.3	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		9.8	11.7	0.3	33.3	
LOS		A	B	A	C	
Approach Delay		9.8	6.2		33.3	
Approach LOS		A	A		C	
Queue Length 50th (ft)		45	91	0	160	
Queue Length 95th (ft)		85	184	0	238	
Internal Link Dist (ft)		368	317		323	
Turn Bay Length (ft)						
Base Capacity (vph)		1718	1040	1591	733	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.23	0.37	0.23	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 81
Actuated Cycle Length: 72.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 63.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Route 28 & Route 375

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	343	24	85	347	27	82
Future Vol, veh/h	343	24	85	347	27	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	91	91
Heavy Vehicles, %	3	0	2	2	0	0
Mvmt Flow	369	26	93	381	30	90

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	395	0	950	382
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	568	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1164	-	291	670
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	571	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1164	-	262	670
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	483	-	-	1164	-
HCM Lane V/C Ratio	0.248	-	-	0.08	-
HCM Control Delay (s)	14.9	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.3	-

Appendix C

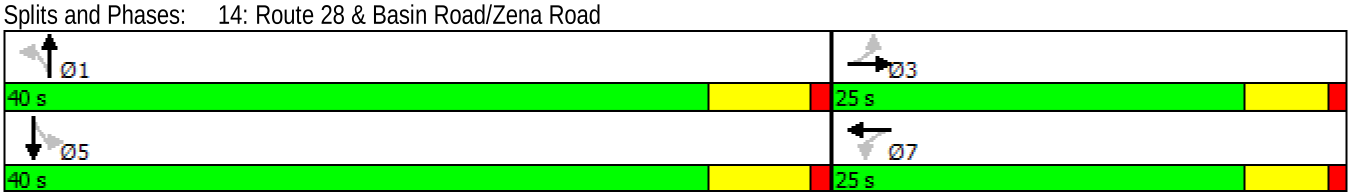
Future Conditions Synchro Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	17	19	96	30	23	31	693	100	41	559	2
Future Volume (vph)	53	17	19	96	30	23	31	693	100	41	559	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.971			0.979			0.982				
Flt Protected		0.971			0.969			0.998			0.997	
Satd. Flow (prot)	0	1745	0	0	1731	0	0	3503	0	0	3508	0
Flt Permitted		0.759			0.797			0.916			0.857	
Satd. Flow (perm)	0	1364	0	0	1423	0	0	3215	0	0	3015	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			14			35			1	
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		295			409			373			284	
Travel Time (s)		5.7			6.2			5.7			4.3	
Peak Hour Factor	0.96	0.96	0.96	0.84	0.84	0.84	0.96	0.96	0.96	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	7%	4%	4%	5%	4%	1%	0%	11%	2%	0%
Adj. Flow (vph)	55	18	20	114	36	27	32	722	104	44	595	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	0	177	0	0	858	0	0	641	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left	Left		Left	Left		Left			Left		
Leading Detector (ft)	20	20		20	20		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			7			1			5	
Permitted Phases	3			7			1			5		
Detector Phase	3	3		7	7		1	1		5	5	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		40.0	40.0		40.0	40.0	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0		40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%		61.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0		34.0	34.0		34.0	34.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		12.0			12.3			38.8			38.8	
Actuated g/C Ratio		0.21			0.21			0.67			0.67	
v/c Ratio		0.32			0.57			0.40			0.32	
Control Delay		18.1			26.0			7.1			6.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.1			26.0			7.1			6.8	
LOS		B			C			A			A	
Approach Delay		18.1			26.0			7.1			6.8	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		21			50			69			51	
Queue Length 95th (ft)		53			92			138			104	
Internal Link Dist (ft)		215			329			293			204	
Turn Bay Length (ft)												
Base Capacity (vph)		481			498			2152			2007	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.19			0.36			0.40			0.32	

Intersection Summary	
Area Type: Other	
Cycle Length: 65	
Actuated Cycle Length: 58.3	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Route 28 & Basin Road/Zena Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	318	378	356	309	47
Future Volume (vph)	44	318	378	356	309	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt				0.850	0.982	
Flt Protected		0.994			0.958	
Satd. Flow (prot)	0	3518	1881	1599	1752	0
Flt Permitted		0.869			0.958	
Satd. Flow (perm)	0	3076	1881	1599	1752	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					11	
Link Speed (mph)		45	45		40	
Link Distance (ft)		448	397		403	
Travel Time (s)		6.8	6.0		6.9	
Peak Hour Factor	0.89	0.89	0.97	0.97	0.86	0.86
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Adj. Flow (vph)	49	357	390	367	359	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	406	390	367	414	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template	Left			Right	Left	
Leading Detector (ft)	20	6	6	20	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	NA	pt+ov	Prot	
Protected Phases		5	1	1 3	3	
Permitted Phases	5					
Detector Phase	5	5	1	1 3	3	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		6.0	
Minimum Split (s)	16.0	16.0	16.0		11.0	
Total Split (s)	46.0	46.0	46.0		35.0	
Total Split (%)	56.8%	56.8%	56.8%		43.2%	
Maximum Green (s)	40.0	40.0	40.0		30.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	5.0	5.0	5.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)		40.3	40.3	73.2	21.8	
Actuated g/C Ratio		0.55	0.55	1.00	0.30	
v/c Ratio		0.24	0.38	0.23	0.78	
Control Delay		10.0	11.9	0.3	33.6	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		10.0	11.9	0.3	33.6	
LOS		B	B	A	C	
Approach Delay		10.0	6.3		33.6	
Approach LOS		B	A		C	
Queue Length 50th (ft)		47	94	0	164	
Queue Length 95th (ft)		87	187	0	244	
Internal Link Dist (ft)		368	317		323	
Turn Bay Length (ft)						
Base Capacity (vph)		1692	1034	1589	729	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.24	0.38	0.23	0.57	

Intersection Summary

Area Type: Other
Cycle Length: 81
Actuated Cycle Length: 73.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 14.4 Intersection LOS: B
Intersection Capacity Utilization 64.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Route 28 & Route 375

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	307	28	89	347	31	86
Future Vol, veh/h	307	28	89	347	31	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	91	91
Heavy Vehicles, %	3	0	2	2	0	0
Mvmt Flow	330	30	98	381	34	95

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	360	0	922	345
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	577	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1199	-	302	702
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1199	-	271	702
Mov Cap-2 Maneuver	-	-	-	-	271	-
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	507	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	494	-	-	1199	-
HCM Lane V/C Ratio	0.26	-	-	0.082	-
HCM Control Delay (s)	14.8	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.3	-

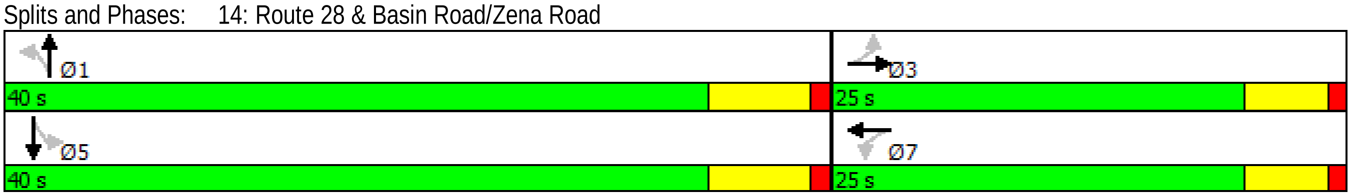
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	17	19	99	30	23	31	729	104	41	587	2
Future Volume (vph)	53	17	19	99	30	23	31	729	104	41	587	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.971			0.980			0.982				
Flt Protected		0.971			0.968			0.998			0.997	
Satd. Flow (prot)	0	1745	0	0	1731	0	0	3503	0	0	3508	0
Flt Permitted		0.768			0.785			0.916			0.854	
Satd. Flow (perm)	0	1380	0	0	1403	0	0	3216	0	0	3005	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			14			34			1	
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		295			409			373			284	
Travel Time (s)		5.7			6.2			5.7			4.3	
Peak Hour Factor	0.96	0.96	0.96	0.84	0.84	0.84	0.96	0.96	0.96	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	7%	4%	4%	5%	4%	1%	0%	11%	2%	0%
Adj. Flow (vph)	55	18	20	118	36	27	32	759	108	44	624	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	0	181	0	0	899	0	0	670	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left	Left		Left	Left		Left			Left		
Leading Detector (ft)	20	20		20	20		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			7			1			5	
Permitted Phases	3			7			1			5		
Detector Phase	3	3		7	7		1	1		5	5	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		40.0	40.0		40.0	40.0	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0		40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%		61.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0		34.0	34.0		34.0	34.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		12.7			12.7			37.1			37.1	
Actuated g/C Ratio		0.21			0.21			0.61			0.61	
v/c Ratio		0.31			0.60			0.46			0.37	
Control Delay		17.7			27.3			7.8			7.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.7			27.3			7.8			7.5	
LOS		B			C			A			A	
Approach Delay		17.7			27.3			7.8			7.5	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		21			51			74			54	
Queue Length 95th (ft)		53			94			150			111	
Internal Link Dist (ft)		215			329			293			204	
Turn Bay Length (ft)												
Base Capacity (vph)		468			472			1974			1832	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.38			0.46			0.37	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 60.9
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 10.1 Intersection LOS: B
Intersection Capacity Utilization 66.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Route 28 & Basin Road/Zena Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	335	398	375	326	47
Future Volume (vph)	44	335	398	375	326	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt				0.850	0.983	
Flt Protected		0.994			0.958	
Satd. Flow (prot)	0	3518	1881	1599	1754	0
Flt Permitted		0.869			0.958	
Satd. Flow (perm)	0	3076	1881	1599	1754	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					10	
Link Speed (mph)		45	45		40	
Link Distance (ft)		448	397		403	
Travel Time (s)		6.8	6.0		6.9	
Peak Hour Factor	0.89	0.89	0.97	0.97	0.86	0.86
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Adj. Flow (vph)	49	376	410	387	379	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	425	410	387	434	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template	Left			Right	Left	
Leading Detector (ft)	20	6	6	20	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	NA	pt+ov	Prot	
Protected Phases		5	1	1 3	3	
Permitted Phases	5					
Detector Phase	5	5	1	1 3	3	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		6.0	
Minimum Split (s)	16.0	16.0	16.0		11.0	
Total Split (s)	46.0	46.0	46.0		35.0	
Total Split (%)	56.8%	56.8%	56.8%		43.2%	
Maximum Green (s)	40.0	40.0	40.0		30.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	5.0	5.0	5.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)		40.3	40.3	73.9	22.6	
Actuated g/C Ratio		0.55	0.55	1.00	0.31	
v/c Ratio		0.25	0.40	0.24	0.80	
Control Delay		10.4	12.5	0.4	34.7	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		10.4	12.5	0.4	34.7	
LOS		B	B	A	C	
Approach Delay		10.4	6.6		34.7	
Approach LOS		B	A		C	
Queue Length 50th (ft)		51	104	0	175	
Queue Length 95th (ft)		91	198	0	258	
Internal Link Dist (ft)		368	317		323	
Turn Bay Length (ft)						
Base Capacity (vph)		1675	1024	1583	722	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.25	0.40	0.24	0.60	

Intersection Summary

Area Type: Other
Cycle Length: 81
Actuated Cycle Length: 73.9
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 66.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Route 28 & Route 375

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	28	91	367	31	89
Future Vol, veh/h	324	28	91	367	31	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	91	91
Heavy Vehicles, %	3	0	2	2	0	0
Mvmt Flow	348	30	100	403	34	98

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	378	0	966	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	603	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1180	-	285	686
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	550	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1180	-	254	686
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	15.4
HCM LOS			C

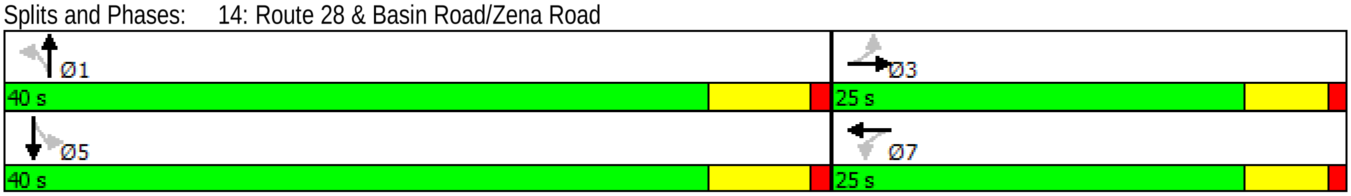
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	-	-	1180	-
HCM Lane V/C Ratio	0.276	-	-	0.085	-
HCM Control Delay (s)	15.4	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	17	19	96	30	23	31	722	100	41	588	2
Future Volume (vph)	56	17	19	96	30	23	31	722	100	41	588	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.972			0.979			0.982				
Flt Protected		0.971			0.969			0.998			0.997	
Satd. Flow (prot)	0	1747	0	0	1731	0	0	3503	0	0	3509	0
Flt Permitted		0.756			0.797			0.916			0.857	
Satd. Flow (perm)	0	1360	0	0	1423	0	0	3215	0	0	3016	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			14			33			1	
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		295			409			373			284	
Travel Time (s)		5.7			6.2			5.7			4.3	
Peak Hour Factor	0.96	0.96	0.96	0.84	0.84	0.84	0.96	0.96	0.96	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	7%	4%	4%	5%	4%	1%	0%	11%	2%	0%
Adj. Flow (vph)	58	18	20	114	36	27	32	752	104	44	626	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	177	0	0	888	0	0	672	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left	Left		Left	Left		Left			Left		
Leading Detector (ft)	20	20		20	20		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			7			1			5	
Permitted Phases	3			7			1			5		
Detector Phase	3	3		7	7		1	1		5	5	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		40.0	40.0		40.0	40.0	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0		40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%		61.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0		34.0	34.0		34.0	34.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		11.9			12.2			38.2			38.2	
Actuated g/C Ratio		0.21			0.21			0.66			0.66	
v/c Ratio		0.32			0.57			0.41			0.34	
Control Delay		18.2			25.7			7.2			7.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.2			25.7			7.2			7.0	
LOS		B			C			A			A	
Approach Delay		18.2			25.7			7.2			7.0	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		22			50			73			54	
Queue Length 95th (ft)		54			91			146			110	
Internal Link Dist (ft)		215			329			293			204	
Turn Bay Length (ft)												
Base Capacity (vph)		487			505			2144			2002	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.35			0.41			0.34	

Intersection Summary	
Area Type: Other	
Cycle Length: 65	
Actuated Cycle Length: 57.6	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 65.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Route 28 & Basin Road/Zena Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	338	390	356	316	48
Future Volume (vph)	45	338	390	356	316	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt				0.850	0.982	
Flt Protected		0.994			0.958	
Satd. Flow (prot)	0	3518	1881	1599	1752	0
Flt Permitted		0.867			0.958	
Satd. Flow (perm)	0	3068	1881	1599	1752	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					11	
Link Speed (mph)		45	45		40	
Link Distance (ft)		448	397		403	
Travel Time (s)		6.8	6.0		6.9	
Peak Hour Factor	0.89	0.89	0.97	0.97	0.86	0.86
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Adj. Flow (vph)	51	380	402	367	367	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	431	402	367	423	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template	Left			Right	Left	
Leading Detector (ft)	20	6	6	20	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	NA	pt+ov	Prot	
Protected Phases		5	1	1 3	3	
Permitted Phases	5					
Detector Phase	5	5	1	1 3	3	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		6.0	
Minimum Split (s)	16.0	16.0	16.0		11.0	
Total Split (s)	46.0	46.0	46.0		35.0	
Total Split (%)	56.8%	56.8%	56.8%		43.2%	
Maximum Green (s)	40.0	40.0	40.0		30.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	5.0	5.0	5.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Act Effct Green (s)		40.2	40.2	73.4	22.1	
Actuated g/C Ratio		0.55	0.55	1.00	0.30	
v/c Ratio		0.26	0.39	0.23	0.79	
Control Delay		10.2	12.2	0.3	34.2	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		10.2	12.2	0.3	34.2	
LOS		B	B	A	C	
Approach Delay		10.2	6.5		34.2	
Approach LOS		B	A		C	
Queue Length 50th (ft)		51	100	0	169	
Queue Length 95th (ft)		93	194	0	250	
Internal Link Dist (ft)		368	317		323	
Turn Bay Length (ft)						
Base Capacity (vph)		1681	1031	1587	726	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.26	0.39	0.23	0.58	

Intersection Summary	
Area Type: Other	
Cycle Length: 81	
Actuated Cycle Length: 73.4	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 65.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Route 28 & Route 375

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	321	28	93	361	31	90
Future Vol, veh/h	321	28	93	361	31	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	91	91
Heavy Vehicles, %	3	0	2	2	0	0
Mvmt Flow	345	30	102	397	34	99

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	375	0	961	360
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	601	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1183	-	287	689
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	551	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1183	-	255	689
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	480	-	-	1183	-
HCM Lane V/C Ratio	0.277	-	-	0.086	-
HCM Control Delay (s)	15.3	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	639	15	20	781	15	20
Future Vol, veh/h	639	15	20	781	15	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	695	16	22	849	16	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	711	0	1171	355
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	468	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	884	-	186	641
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	884	-	177	641
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	569	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	18.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	302	-	-	884	-
HCM Lane V/C Ratio	0.126	-	-	0.025	-
HCM Control Delay (s)	18.6	-	-	9.2	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	401	10	13	425	10	13
Future Vol, veh/h	401	10	13	425	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	436	11	14	462	11	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	447	0	931	441
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	490	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1113	-	296	616
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1113	-	291	616
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	415	-	-	1113	-
HCM Lane V/C Ratio	0.06	-	-	0.013	-
HCM Control Delay (s)	14.2	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

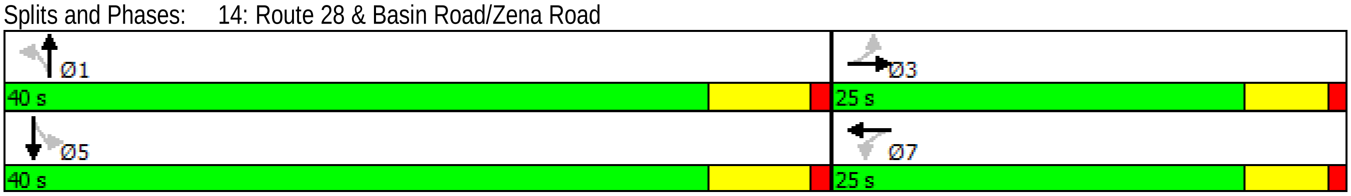
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	17	19	99	30	23	31	758	104	41	616	2
Future Volume (vph)	56	17	19	99	30	23	31	758	104	41	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.972			0.980			0.983				
Flt Protected		0.971			0.968			0.998			0.997	
Satd. Flow (prot)	0	1747	0	0	1731	0	0	3507	0	0	3509	0
Flt Permitted		0.760			0.787			0.915			0.854	
Satd. Flow (perm)	0	1367	0	0	1407	0	0	3215	0	0	3006	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			14			33			1	
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		295			409			373			284	
Travel Time (s)		5.7			6.2			5.7			4.3	
Peak Hour Factor	0.96	0.96	0.96	0.84	0.84	0.84	0.96	0.96	0.96	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	7%	4%	4%	5%	4%	1%	0%	11%	2%	0%
Adj. Flow (vph)	58	18	20	118	36	27	32	790	108	44	655	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	181	0	0	930	0	0	701	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left	Left		Left	Left		Left			Left		
Leading Detector (ft)	20	20		20	20		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			7			1			5	
Permitted Phases	3			7			1			5		
Detector Phase	3	3		7	7		1	1		5	5	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		40.0	40.0		40.0	40.0	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0		40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%		61.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0		34.0	34.0		34.0	34.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		12.7			12.7			37.1			37.1	
Actuated g/C Ratio		0.21			0.21			0.61			0.61	
v/c Ratio		0.32			0.60			0.47			0.38	
Control Delay		18.0			27.3			8.0			7.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.0			27.3			8.0			7.6	
LOS		B			C			A			A	
Approach Delay		18.0			27.3			8.0			7.6	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		22			51			78			57	
Queue Length 95th (ft)		54			94			156			116	
Internal Link Dist (ft)		215			329			293			204	
Turn Bay Length (ft)												
Base Capacity (vph)		465			474			1973			1833	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.21			0.38			0.47			0.38	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 60.8
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 10.2 Intersection LOS: B
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Route 28 & Basin Road/Zena Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	355	418	382	333	48
Future Volume (vph)	45	355	418	382	333	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt				0.850	0.983	
Flt Protected		0.994			0.958	
Satd. Flow (prot)	0	3518	1881	1599	1754	0
Flt Permitted		0.866			0.958	
Satd. Flow (perm)	0	3065	1881	1599	1754	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					10	
Link Speed (mph)		45	45		40	
Link Distance (ft)		448	397		403	
Travel Time (s)		6.8	6.0		6.9	
Peak Hour Factor	0.89	0.89	0.97	0.97	0.86	0.86
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Adj. Flow (vph)	51	399	431	394	387	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	450	431	394	443	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template	Left			Right	Left	
Leading Detector (ft)	20	6	6	20	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	NA	pt+ov	Prot	
Protected Phases		5	1	1 3	3	
Permitted Phases	5					
Detector Phase	5	5	1	1 3	3	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		6.0	
Minimum Split (s)	16.0	16.0	16.0		11.0	
Total Split (s)	46.0	46.0	46.0		35.0	
Total Split (%)	56.8%	56.8%	56.8%		43.2%	
Maximum Green (s)	40.0	40.0	40.0		30.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	5.0	5.0	5.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)		40.3	40.3	74.3	23.0	
Actuated g/C Ratio		0.54	0.54	1.00	0.31	
v/c Ratio		0.27	0.42	0.25	0.81	
Control Delay		10.7	12.9	0.4	35.1	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		10.7	12.9	0.4	35.1	
LOS		B	B	A	D	
Approach Delay		10.7	6.9		35.1	
Approach LOS		B	A		D	
Queue Length 50th (ft)		56	113	0	181	
Queue Length 95th (ft)		96	211	0	266	
Internal Link Dist (ft)		368	317		323	
Turn Bay Length (ft)						
Base Capacity (vph)		1661	1019	1581	718	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.27	0.42	0.25	0.62	

Intersection Summary	
Area Type: Other	
Cycle Length: 81	
Actuated Cycle Length: 74.3	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 15.2	Intersection LOS: B
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Route 28 & Route 375

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	338	28	95	381	31	93
Future Vol, veh/h	338	28	95	381	31	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	91	91
Heavy Vehicles, %	3	0	2	2	0	0
Mvmt Flow	363	30	104	419	34	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	1005	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	627	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1165	-	270	673
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	536	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1165	-	239	673
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	474	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	463	-	-	1165	-
HCM Lane V/C Ratio	0.294	-	-	0.09	-
HCM Control Delay (s)	16	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	673	15	20	817	15	20
Future Vol, veh/h	673	15	20	817	15	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	732	16	22	888	16	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	748	0	1228	374
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	856	-	170	623
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	583	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	856	-	161	623
Mov Cap-2 Maneuver	-	-	-	-	161	-
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	19.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	279	-	-	856	-
HCM Lane V/C Ratio	0.136	-	-	0.025	-
HCM Control Delay (s)	19.9	-	-	9.3	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	421	10	13	453	10	13
Future Vol, veh/h	421	10	13	453	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	458	11	14	492	11	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	468	0	984	463
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1094	-	275	599
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	596	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1094	-	270	599
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	585	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	392	-	-	1094	-
HCM Lane V/C Ratio	0.064	-	-	0.013	-
HCM Control Delay (s)	14.8	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

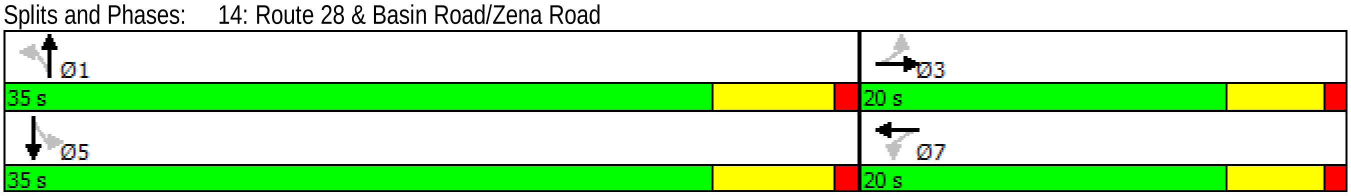
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	17	19	99	30	23	31	758	104	41	616	2
Future Volume (vph)	56	17	19	99	30	23	31	758	104	41	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.972			0.980			0.983				
Flt Protected		0.971			0.968			0.998			0.997	
Satd. Flow (prot)	0	1747	0	0	1731	0	0	3507	0	0	3509	0
Flt Permitted		0.763			0.777			0.916			0.857	
Satd. Flow (perm)	0	1373	0	0	1389	0	0	3219	0	0	3017	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			16			39			1	
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		295			409			373			284	
Travel Time (s)		5.7			6.2			5.7			4.3	
Peak Hour Factor	0.96	0.96	0.96	0.84	0.84	0.84	0.96	0.96	0.96	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	7%	4%	4%	5%	4%	1%	0%	11%	2%	0%
Adj. Flow (vph)	58	18	20	118	36	27	32	790	108	44	655	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	181	0	0	930	0	0	701	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left	Left		Left	Left		Left			Left		
Leading Detector (ft)	20	20		20	20		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	20		20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			7			1			5	
Permitted Phases	3			7			1			5		
Detector Phase	3	3		7	7		1	1		5	5	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		40.0	40.0		40.0	40.0	
Total Split (s)	20.0	20.0		20.0	20.0		35.0	35.0		35.0	35.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		63.6%	63.6%		63.6%	63.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0		29.0	29.0		29.0	29.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.0			11.2			33.7			33.7	
Actuated g/C Ratio		0.21			0.21			0.64			0.64	
v/c Ratio		0.32			0.59			0.44			0.36	
Control Delay		16.5			24.5			7.3			7.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.5			24.5			7.3			7.0	
LOS		B			C			A			A	
Approach Delay		16.5			24.5			7.3			7.0	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		19			44			74			55	
Queue Length 95th (ft)		50			85			134			101	
Internal Link Dist (ft)		215			329			293			204	
Turn Bay Length (ft)												
Base Capacity (vph)		408			409			2091			1947	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.44			0.44			0.36	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 52.3
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Route 28 & Basin Road/Zena Road

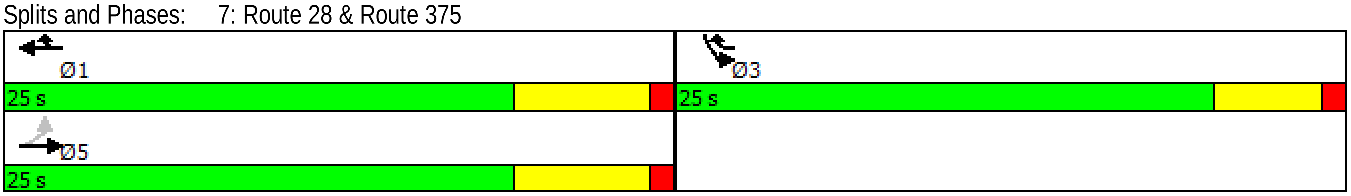


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	355	418	382	333	48
Future Volume (vph)	45	355	418	382	333	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt				0.850	0.983	
Flt Protected		0.994			0.958	
Satd. Flow (prot)	0	3518	1881	1599	1754	0
Flt Permitted		0.866			0.958	
Satd. Flow (perm)	0	3065	1881	1599	1754	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					17	
Link Speed (mph)		45	45		40	
Link Distance (ft)		448	397		403	
Travel Time (s)		6.8	6.0		6.9	
Peak Hour Factor	0.89	0.89	0.97	0.97	0.86	0.86
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Adj. Flow (vph)	51	399	431	394	387	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	450	431	394	443	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template	Left			Right	Left	
Leading Detector (ft)	20	6	6	20	20	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	NA	pt+ov	Prot	
Protected Phases		5	1	1 3	3	
Permitted Phases	5					
Detector Phase	5	5	1	1 3	3	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		6.0	
Minimum Split (s)	16.0	16.0	16.0		11.0	
Total Split (s)	25.0	25.0	25.0		25.0	
Total Split (%)	50.0%	50.0%	50.0%		50.0%	
Maximum Green (s)	19.0	19.0	19.0		20.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	5.0	5.0	5.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)		19.1	19.1	45.9	15.7	
Actuated g/C Ratio		0.42	0.42	1.00	0.34	
v/c Ratio		0.35	0.55	0.25	0.73	
Control Delay		11.1	14.6	0.4	20.2	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		11.1	14.6	0.4	20.2	
LOS		B	B	A	C	
Approach Delay		11.1	7.8		20.2	
Approach LOS		B	A		C	
Queue Length 50th (ft)		42	85	0	94	
Queue Length 95th (ft)		77	172	0	160	
Internal Link Dist (ft)		368	317		323	
Turn Bay Length (ft)						
Base Capacity (vph)		1278	784	1578	779	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.35	0.55	0.25	0.57	

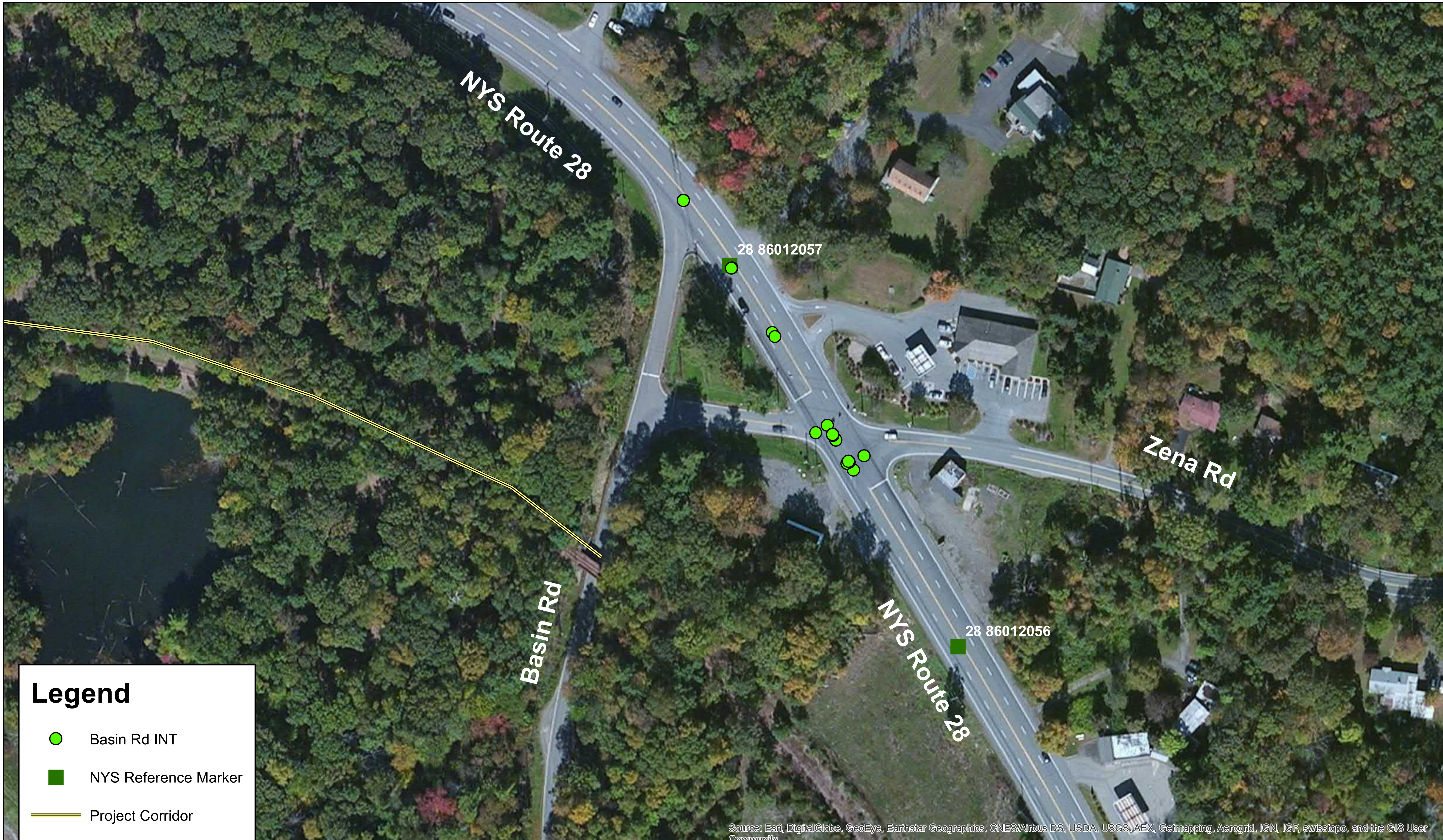
Intersection Summary	
Area Type: Other	
Cycle Length: 50	
Actuated Cycle Length: 45.9	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 11.8	Intersection LOS: B
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Route 28 & Route 375



Appendix D

Crash Data



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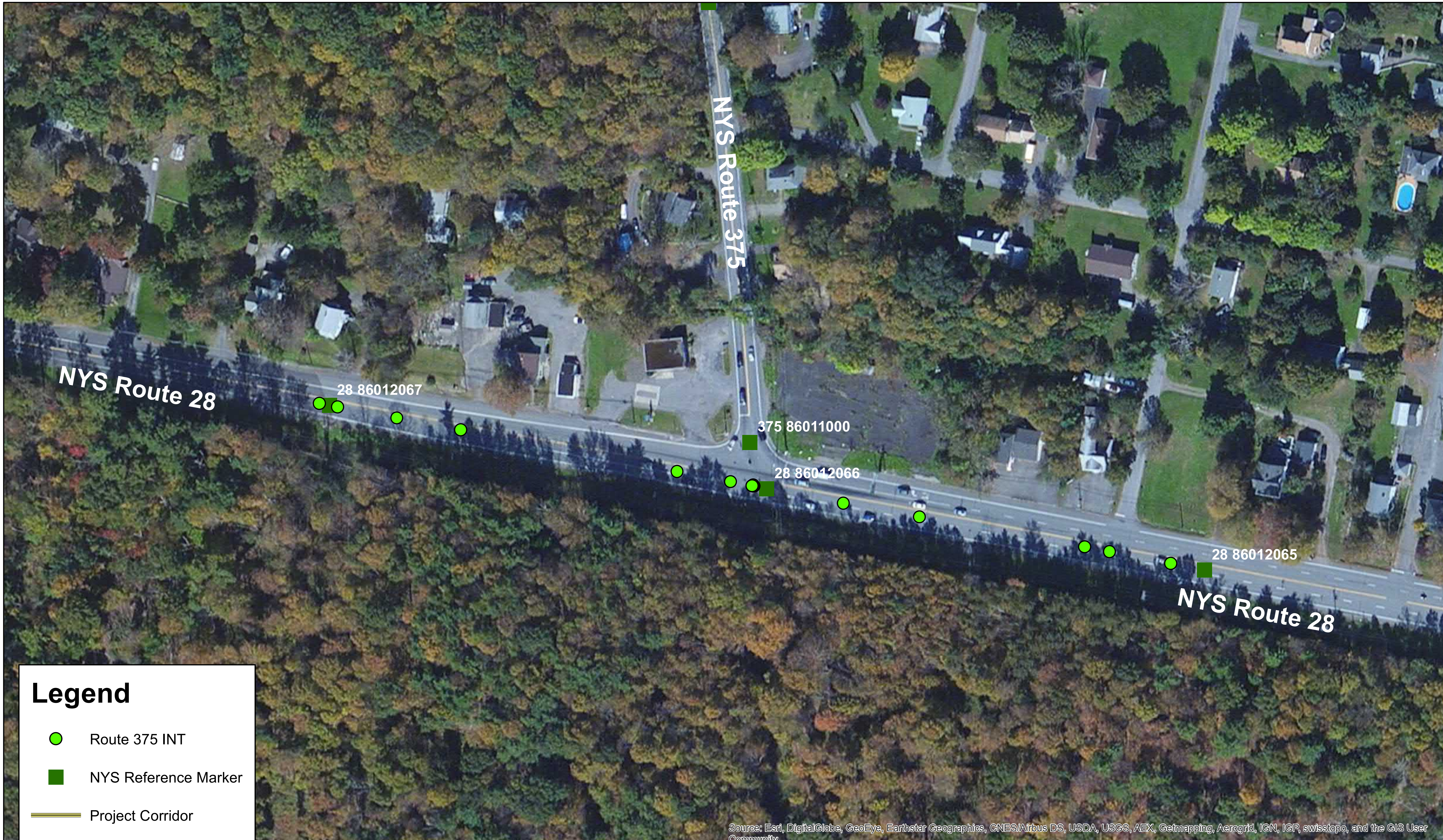
1 inch = 104 feet

Ulster County
Ashokan Rail Trail
Basin Rd - Route 28 Intersection

Ulster County | January 2017 | New York

Figure 5

Project No. 369.007



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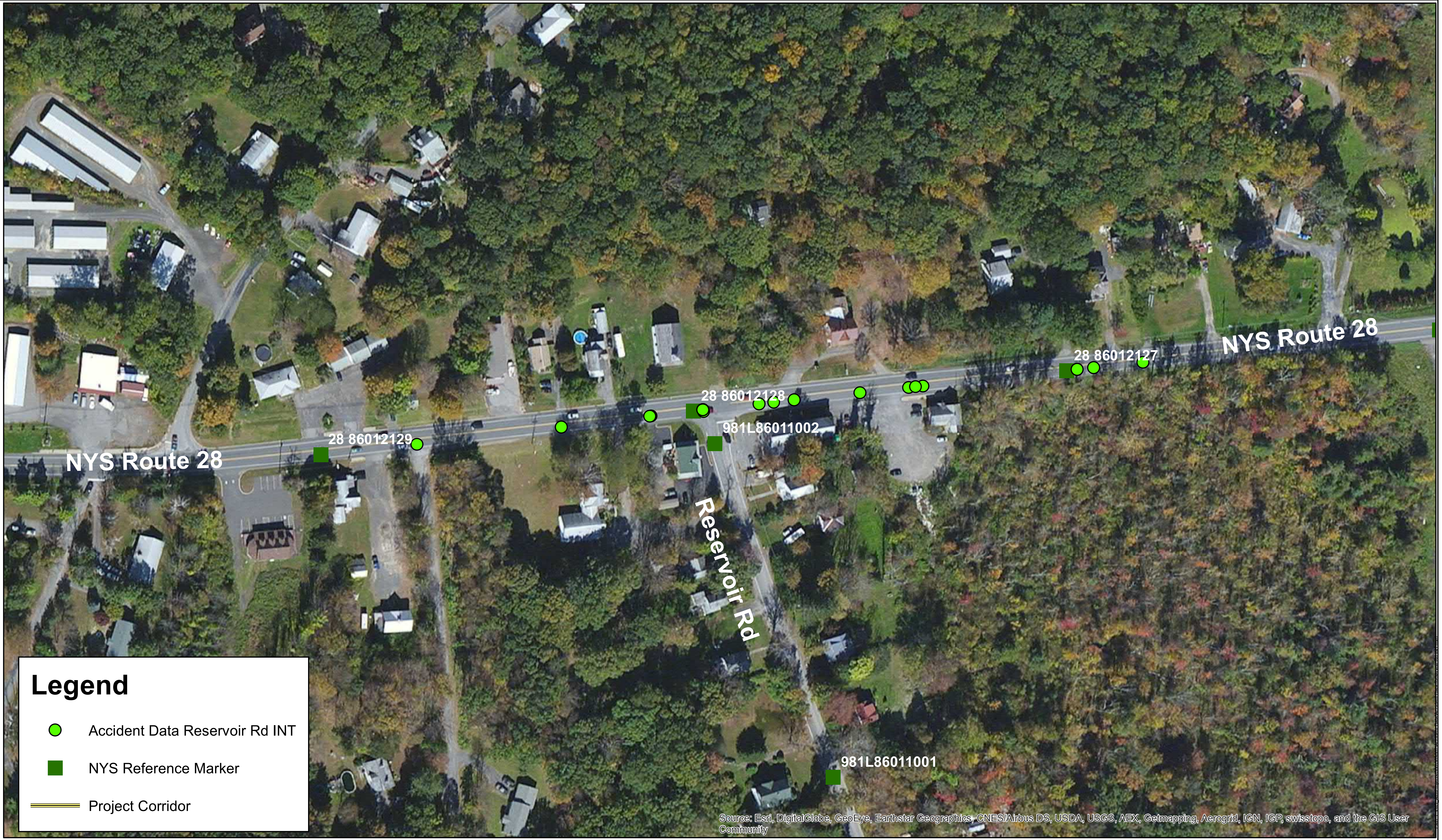
1 inch = 104 feet

Ulster County
Ashokan Rail Trail
Route 375 - Route 28 Intersection
Ulster County January 2017 New York

Figure 4
Project No. 369.007



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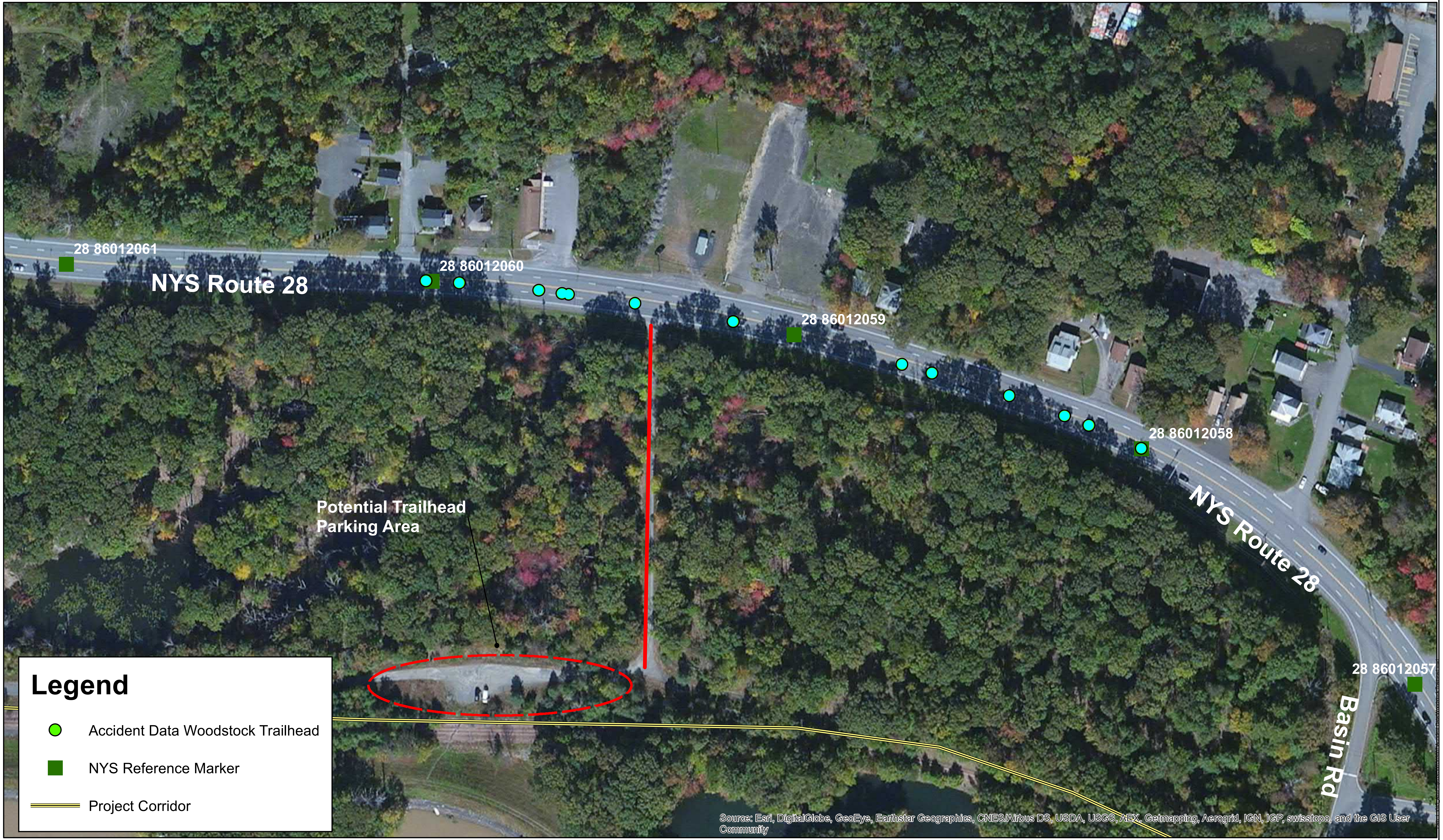
1 inch = 122 feet

Ulster County
Ashokan Rail Trail
Reservoir Rd - Route 28 Intersection
Ulster County | January 2017 | New York

Figure 3

Project No. 369.007



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1 inch = 125 feet

Ulster County
Ashokan Rail Trail
Woodstock Trailhead
Ulster County | January 2017 | New York

Figure 7
Project No. 369.007

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1 inch = 167 feet

Ulster County
Ashokan Rail Trail
Shokan Station Trailhead
Ulster County January 2017 New York

Figure 6
Project No. 369.007

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

October 3, 2016

Ms. Corinne Steinmuller
Environmental Scientist II
Barton and Loguidice
10 Airline Drive
Albany, NY 12203

Re: DEC
Ashokan Rail Trail
16PR06122

Dear Ms. Steinmuller:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential impacts that must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6NYCRR Part 617).

We note that the proposed project is located partially within the National Register eligible Ulster and Delaware Railroad Corridor. The historic section of the railway, extending from Shokan to Phoenicia, is listed under National Register Criterion A for its association with historical development of the towns of Shandaken and Olive from the period 1897-1942. We understand that the proposed project will include construction of a pedestrian and bicycle pathway along the existing rail bed extending approximately 11.5 miles from West Hurley to Olive. The proposed rail trail will affect approximately six miles of the historic railway, and will include removal of the rail and ties, repairs to existing culverts, and construction of multiple trailheads within the twenty foot wide easement.

We are pleased that this adaptive reuse project will retain the rail corridor along with its historic feeling, association, and use as a transportation route. Based on this review, it is the opinion of the SHPO that the proposed project will have No Adverse Impact upon the historic Ulster and Delaware Railroad Corridor provided the following conditions are incorporated into the project:

1. A Preservation Plan is developed for the historic rail corridor. At minimum the Plan will identify all historic structures and engineering features that will be impacted by the project.
2. Historic interpretation of the railway will be integrated into development of the rail trail. Interpretive materials should include interpretive signage along the rail trail. A qualified professional should be retained to develop the preservation and interpretive plans.

3. Materials related to documentation and interpretation of historic features should be submitted to our office for review in the preliminary and pre-final stages.

Any additional measures that would further ensure the preservation and understanding of the historic railway are encouraged. Towards this goal, we suggest the following:

- Small sections of track (roughly 50') may be retained at the beginning and end of the proposed rail trail. One or both ends of this could display the existing heavy gauge rails along with a sample of the previous iteration of light rail as part of an interpretive exhibit.
- Additional historic features including buildings, structures, and engineering features that are identified along the eligible route will be protected and interpreted in accordance with the Preservation Plan.

Consultation with our office should continue as the preservation and interpretation measures suggested above are developed. Plans, specifications, and other documentation requested in this letter should be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/. Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project". You will need this project number and your e-mail address.

If you have any questions, I can be reached at (518) 268-2164.

Sincerely,

Weston Davey
Historic Site Restoration Coordinator
weston.davey@parks.ny.gov

via e-mail only

CC: Scott Ballard (DEC)
Charles Laing (NYCDEP)
Christopher White (Ulster County)

Barton & Loguidice

Barton & Loguidice, D.P.C.

Memo To: Project File **Date:** May 16, 2017

From: Rosemary McCormick **Project No.:** 369.007.001
Hydrogeologist II

Subject: Environmental Soil Sampling Program Results
Ashokan Rail Trail, Ulster County, NY

Project Area and Description

Barton & Loguidice, D.P.C. (B&L), has been retained by Ulster County to provide preliminary design services for the proposed Ashokan Rail Trail located in the Towns of Olive and Hurley, Ulster County, New York. Ulster County is proposing the construction of an 11.5-mile pedestrian and bicycle trail which will run from Basin Road in the Town of Hurley to NYS Route 28A in the Town of Olive. The proposed action includes the creation of a recreational trail corridor on a former rail line north of the Ashokan Reservoir. The project includes repurposing of the existing ballast, removal of rail ties, creation of trailheads, construction of a pedestrian bridge, and maintenance to existing culvert structures. The location of the project area is shown on the enclosed index map and Figures 1-5. The project corridor can also be found on the USGS 7½-minute Kingston West, Ashokan, West Shokan, Bearsville, and Phoenicia quadrangles between 42° 0'20.87"N, 74°16'16.63"W and 41°59'5.60"N, 74° 5'13.93"W (NAD 83).

Areas adjacent to the project corridor are generally rural in nature and consist of residential and commercial property to the north associated with NYS Route 28. To the south of the corridor, the Ashokan Reservoir serves as a drinking water source for New York City and is recreationally limited to permitted fishing and non-motorized boat usage. The railway itself travels through mature mid-successional forest and will cross the Esopus Creek on the western end of the proposed trail.

Environmental Soil Sampling Program:

In order to investigate and characterize the chemical composition of the surface and shallow subsurface soils that will be potentially be disturbed during the construction of the rail trail corridor and associated trail head areas, B&L collected 11 soil samples on April 4, 2017 as part of the environmental soil sampling program.

<u>Collection of Soil Samples along the Rail Trail Corridor</u>:

B&L collected four shallow subsurface soil samples at a depth of 1 to 2 feet below the ground surface (bgs) of the soil that exists immediately adjacent to the slag material to determine if the slag has had a detrimental impact on the adjacent and/or underlying soils due to leaching, etc.

The soil sampling locations, which are indicated on Figures 1 through 5, were chosen with the intent of characterizing the soils at four representative locations along the 11.5 mile long rail trail corridor.

The procured soil samples were collected in accordance with B&L Standard Operating Procedures (SOPS) and the four soil samples were submitted to a qualified analytical testing laboratory for the analysis of semi-volatile organic compounds (SVOCs) using EPA Method 8270D, Pesticides using EPA Method 8081B, Herbicides using EPA Method 8151A, target analyte list (TAL) Metals using EPA Method 6010B, and Total Mercury using EPA Method 7470A/7471A.

Results of the completed field investigation reveal no parameter concentration exceedances in the analyzed surface soil samples when compared to the NYSDEC Part 375 SCOs for Restricted-Residential Use. The results of the laboratory analysis are summarized in attached Table 1 and the unvalidated analytical laboratory test report is included in Attachment A.

<u>Collection of Soil Samples Downgradient of the Former Mobil Station on State Route 28</u>:

In preparing the Draft Hazardous Materials Survey Report for the project site, B&L determined that a fairly large oil spill occurred in 2008 at a former Mobil Station located on State Route 28 upgradient of the proposed Rail Trail corridor (refer to Figure 1). Although site remediation activities occurred at the former Mobil Station in 2013, B&L collected three shallow subsurface soil samples at a depth of 1 to 2 feet bgs downgradient of the former Mobil Station within the confines of the proposed rail trail corridor.

The three soil samples were collected in accordance with B&L SOPS and the soil samples were submitted to Test America Laboratories, Inc., a qualified analytical testing laboratory, for the analysis of Volatile Organic Compounds (VOCs) and BTEX using EPA Method 8021, SVOCs using EPA Method 8270D, TAL Metals using EPA Method 6010B, and Total Mercury using EPA Method 7470A/7471A.

In the analyzed surface soil samples, parameter concentrations were reported below the applicable NYSDEC Part 375 SCOs for Restricted-Residential Use. The results of the laboratory analysis are summarized in Table 2 (attached) and the unvalidated analytical laboratory test report is included in Attachment A.

<u>Collection of Soil Samples at the Location of the Former Equipment Storage Facility/Proposed Trailhead Area:</u>

In order to determine if the prior operations at the former equipment storage area have had a detrimental impact on the subsurface soils at the proposed trailhead site, four soil samples were collected: two soil samples from 1 to 2 feet bgs and two soil samples from 8 to 10 feet bgs (refer to Figure 3).

The four soil samples, collected in accordance with B&L SOPS, were submitted for the laboratory analysis of SVOCs using EPA Method 8270D, Pesticides using EPA Method 8081B, Herbicides using EPA Method 8151A, PCBs using EPA Method 8082A, TAL Metals using EPA Method 6010B, and Total Mercury using EPA Method 7470A/7471A.

There were no parameter concentration exceedances in the analyzed subsurface soil samples when compared to the NYSDEC Part 375 SCOs for Restricted-Residential Use. The results of the laboratory analysis are summarized in Table 3 (attached) and the unvalidated analytical laboratory test report is included in Attachment A.

Summary and Recommendations:

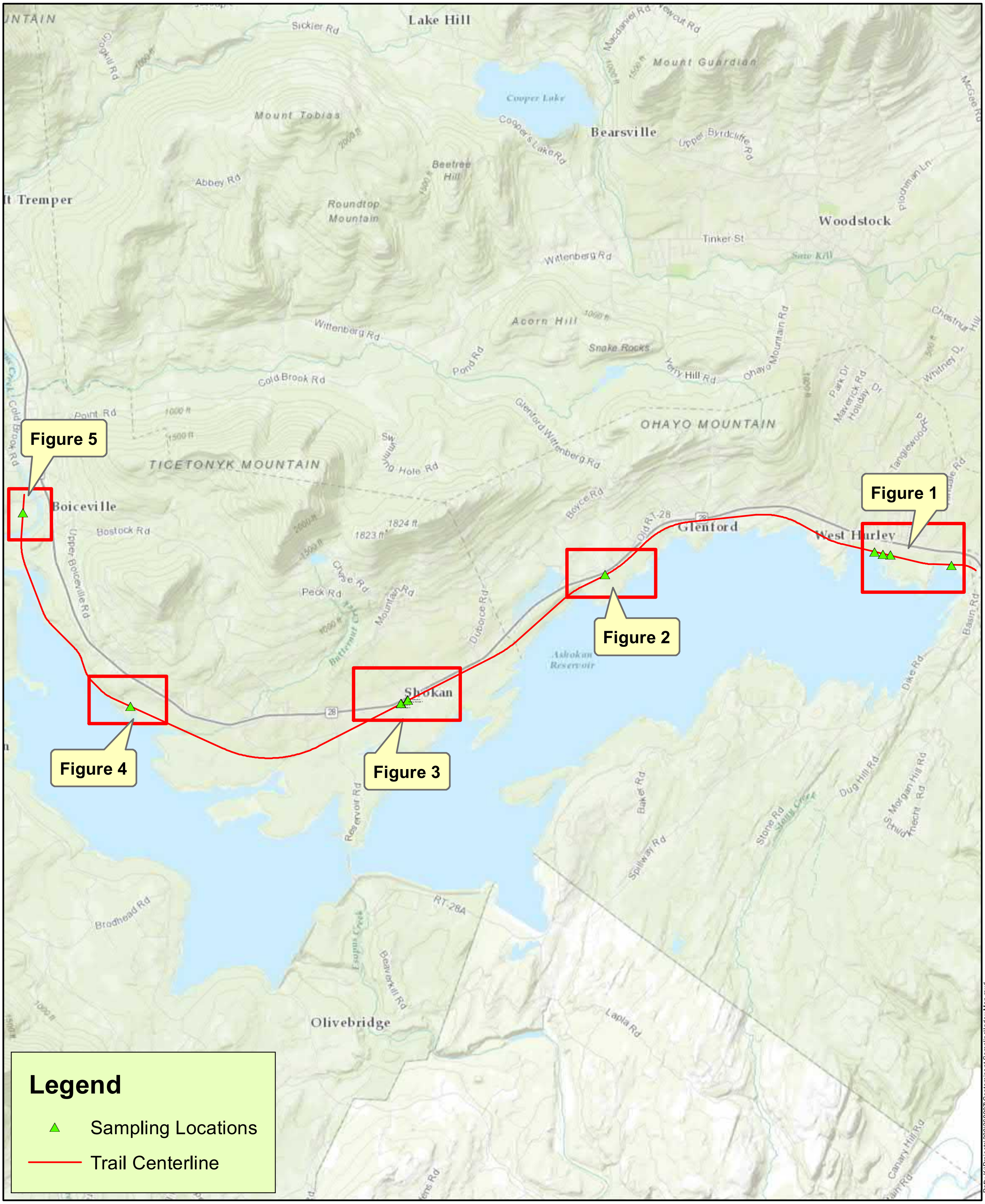
When compared to the NYSDEC Part 375 SCOs for Restricted-Residential Use, analytical data for the 11 soil samples collected on April 4, 2017 demonstrate minor contamination from polycyclic aromatic hydrocarbons (PAHs) and metals. These contaminants are likely attributable to the observed slag and ballast materials and/or residuals from diesel locomotive exhaust.

On-site reuse of disturbed materials is justifiable with the appropriate precautions taken to protect human health and the environment during construction activities. All soils excavated shall be controlled and properly staged at or below the existing railroad bed elevation. Stockpiled contaminated soils would then be placed above the groundwater table and under a "clean cover" (i.e., road pavement and/or a layer of clean fill) to provide long-term protection of human health and the environment.

Furthermore, any excavated soil material that is to be transported off site should be analytically tested and characterized in order to determine if the excavated soil material satisfies the Part 375 Unrestricted Use SCOs and, therefore, can be used as clean fill material or if it must be properly disposed of at a permitted solid waste facility in accordance with State and Federal regulations.

RJM/akg
Attachments

Index Map



1 inch = 6,500 feet

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Engineers • Environmental Scientists • Planners • Landscape Architects

Ulster County Department of Planning

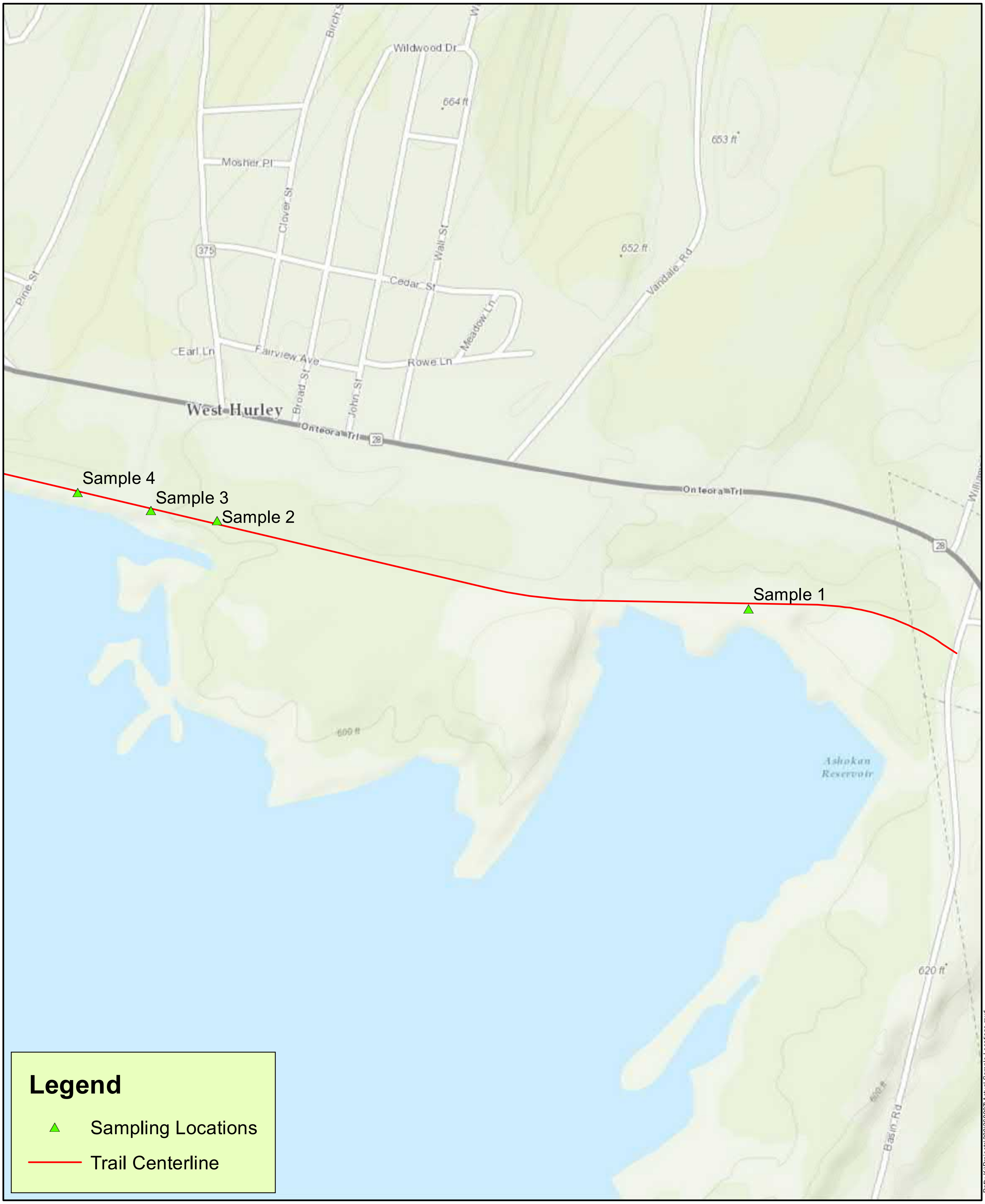
Ashokan Rail Trail
Soil Sample Locations

Ulster County April 2017 New York

Index Map

Project No. 369.007

Figures 1-5



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1 inch = 750 feet

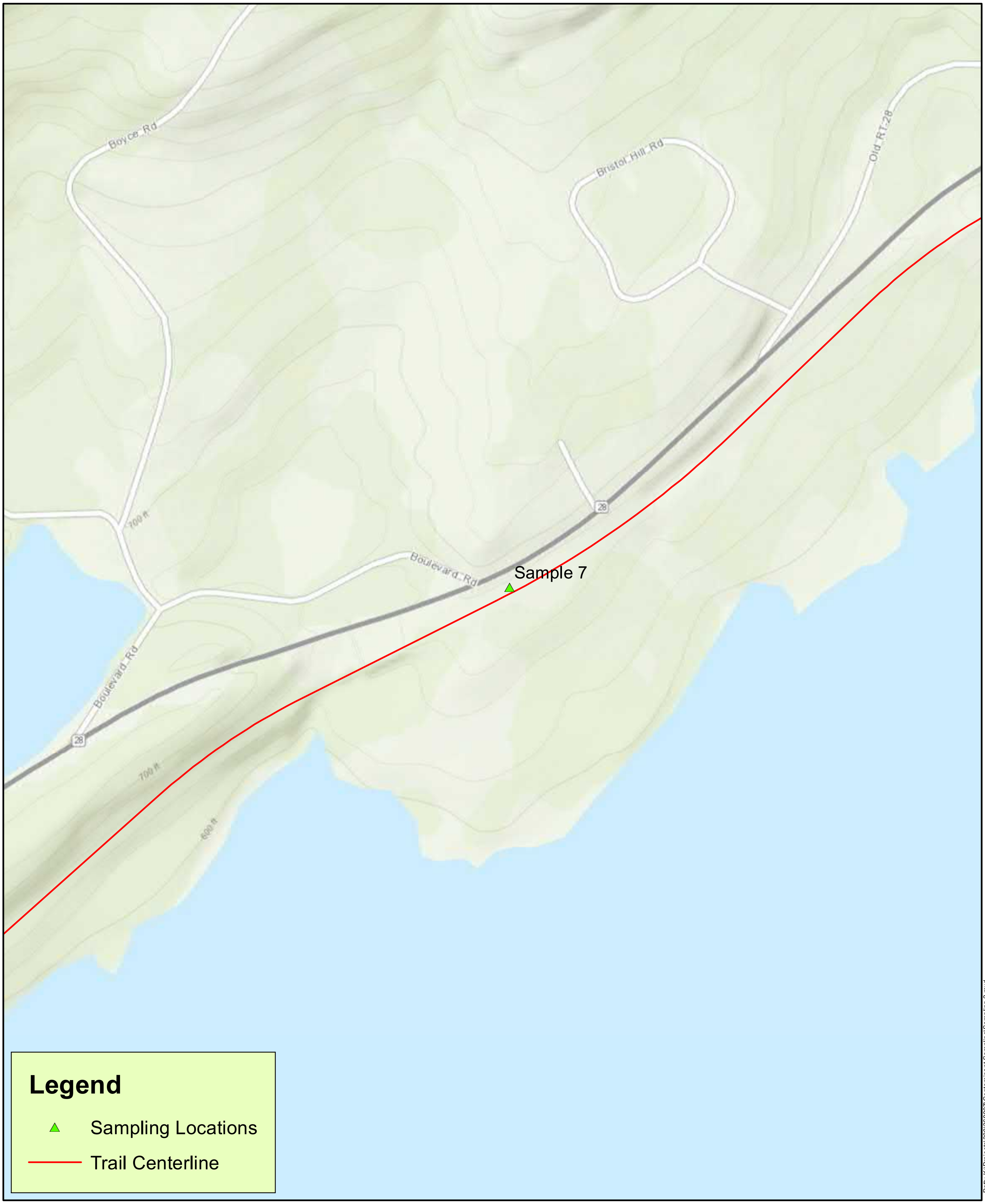
Ulster County Department of Planning

Ashokan Rail Trail
Soil Sample Locations

Ulster County | April 2017 | New York

Figure 1

Project No. 369.007



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1 inch = 750 feet

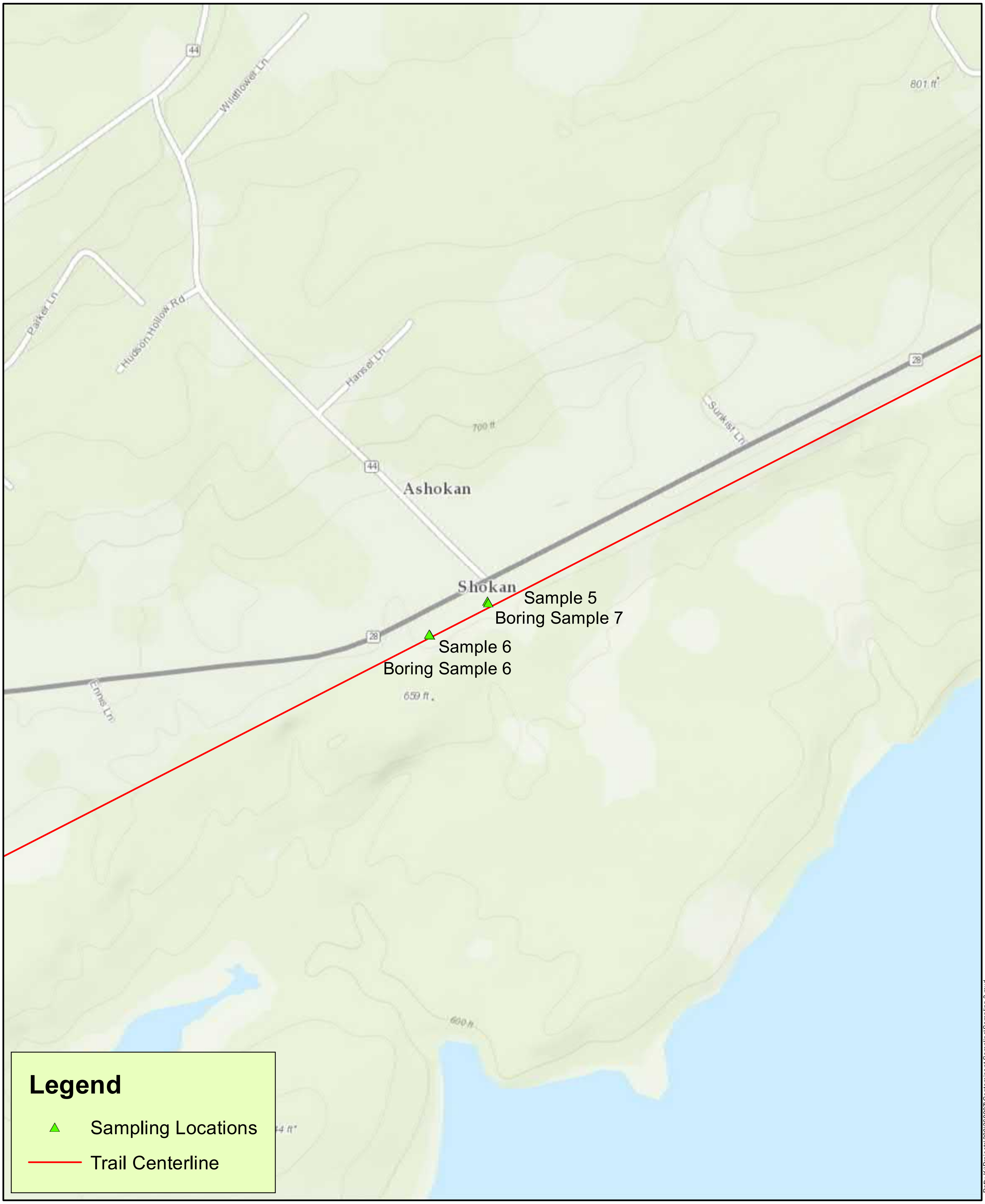
Ulster County Department of Planning

Ashokan Rail Trail
Soil Sample Locations

Ulster County April 2017 New York

Figure 2

Project No. 369.007



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1 inch = 750 feet

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Ashokan Rail Trail
Soil Sample Locations

Ulster County April 2017 New York

Figure 3

Project No. 369.007

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N W E S

1 inch = 750 feet

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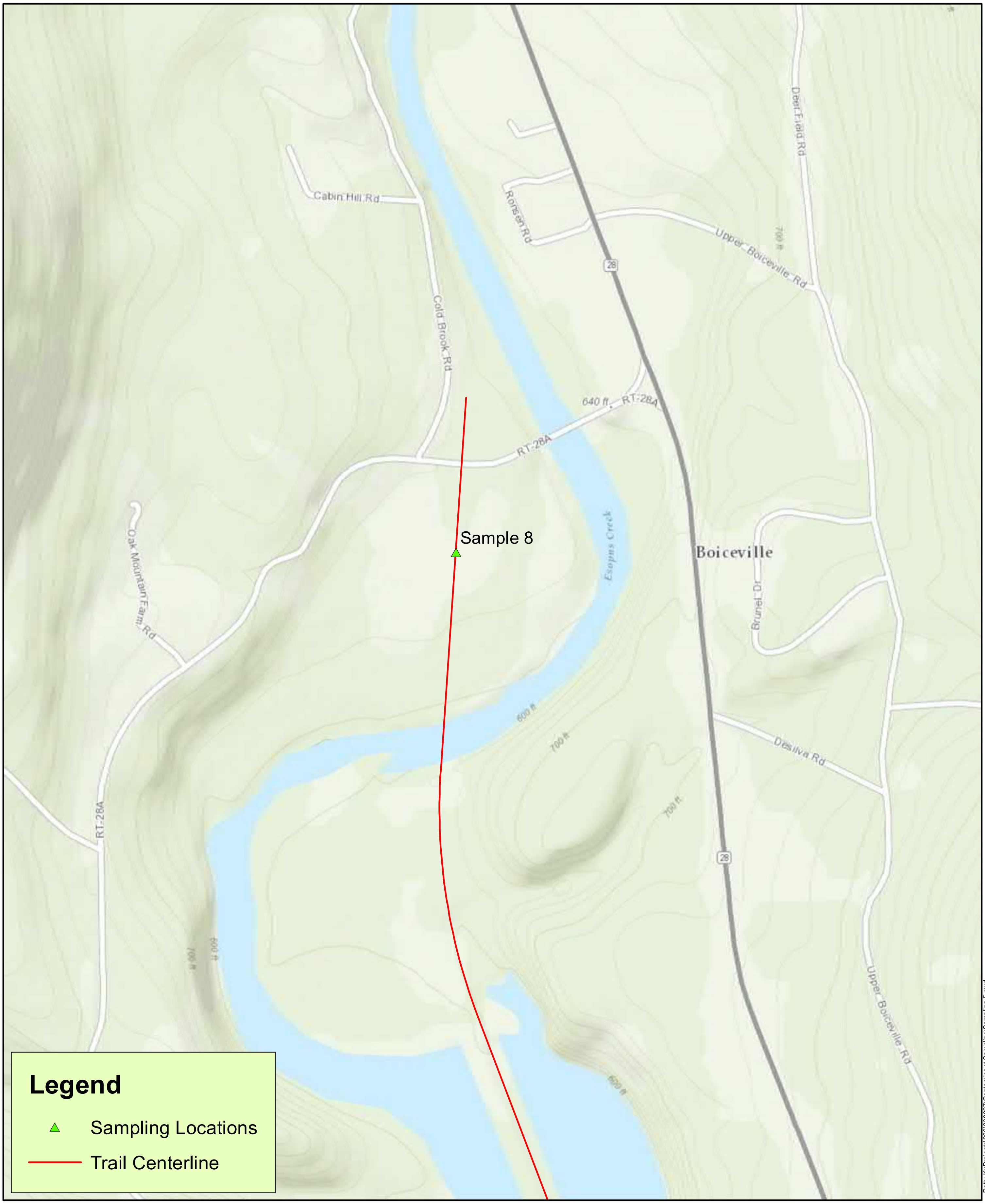
Ashokan Rail Trail
Soil Sample Locations

Ulster County April 2017 New York

Figure 4

Project No. 369.007



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N W E S

1 inch = 750 feet

Ulster County Department of Planning

Ashokan Rail Trail
Soil Sample Locations

Ulster County April 2017 New York

Figure 5

Project No. 369.007

Table 1

Collection of Soil Samples along the Rail Trail Corridor

Ashokan Reservoir - Collection of Soil Samples along the Rail Trail Corridor

Soil Investigation, B&L 369.007.001

TABLE 1		**Sample ID**	**SAMPLE-1**		**SAMPLE-7**		**SAMPLE-8**		**SAMPLE-9**	
		Lab ID	480-115585-1		480-115585-7		480-115585-8		480-115585-9	
Restricted Residential Soil Cleanup Objectives (RRSCO)		**Date**	04/04/2017 09:00:00		04/04/2017 12:45:00		04/04/2017 13:00:00		04/04/2017 13:25:00	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Semivolatiles										
2,4,5-Trichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4,6-Trichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dimethylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dinitrophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dinitrotoluene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,6-Dinitrotoluene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Chloronaphthalene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Chlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Methylnaphthalene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Nitrophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
3,3'-Dichlorobenzidine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
3-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4,6-Dinitro-2-methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Bromophenyl phenyl ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Chloro-3-methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Chloroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Chlorophenyl phenyl ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Nitrophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Acenaphthene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Acenaphthylene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Acetophenone	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Anthracene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Atrazine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Benzaldehyde	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Benzo[a]anthracene	1000	ug/Kg	ND	U	ND	U	**39**	J	**240**	J
Benzo[a]pyrene	1000	ug/Kg	ND	U	ND	U	ND	U	**210**	J
Benzo[b]fluoranthene	1000	ug/Kg	ND	U	ND	U	**52**	J	**320**	J
Benzo[g,h,i]perylene	100000	ug/Kg	ND	U	ND	U	**22**	J	**130**	J
Benzo[k]fluoranthene	3900	ug/Kg	ND	U	ND	U	ND	U	**190**	J
Biphenyl	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
bis (2-chloroisopropyl) ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Bis(2-chloroethoxy)methane	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Bis(2-chloroethyl)ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Bis(2-ethylhexyl) phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Butyl benzyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Caprolactam	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Carbazole	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Chrysene	3900	ug/Kg	ND	U	ND	U	**62**	J	**370**	J
Dibenz(a,h)anthracene	330	ug/Kg	ND	U	ND	U	ND	U	ND	U
Dibenzofuran	59000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Diethyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Dimethyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Di-n-butyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Di-n-octyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Fluoranthene	100000	ug/Kg	ND	U	ND	U	**69**	J	**530**	J
Fluorene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachlorobenzene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachlorobutadiene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachlorocyclopentadiene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachloroethane	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Indeno[1,2,3-cd]pyrene	500	ug/Kg	ND	U	ND	U	ND	U	ND	U
Isophorone	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Naphthalene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Nitrobenzene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
N-Nitrosodi-n-propylamine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
N-Nitrosodiphenylamine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Pentachlorophenol	6700	ug/Kg	ND	U	ND	U	ND	U	ND	U
Phenanthrene	100000	ug/Kg	ND	U	ND	U	**63**	J	**310**	J
Phenol	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Pyrene	100000	ug/Kg	ND	U	ND	U	**61**	J	**360**	J
Total Conc	-	ug/Kg					**368**		**2660**	

Ashokan Reservoir - Collection of Soil Samples along the Rail Trail Corridor

Soil Investigation, B&L 369.007.001

TABLE 1		**Sample ID**	**SAMPLE-1**		**SAMPLE-7**		**SAMPLE-8**		**SAMPLE-9**	
		Lab ID	480-115585-1		480-115585-7		480-115585-8		480-115585-9	
Restricted Residential Soil Cleanup Objectives (RRSCO)		**Date**	04/04/2017 09:00:00		04/04/2017 12:45:00		04/04/2017 13:00:00		04/04/2017 13:25:00	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Pesticides										
4,4'-DDD	13000	ug/Kg	ND	U	ND	U	ND	U	ND	U
4,4'-DDE	8900	ug/Kg	ND	U	ND	U	ND	U	**4**	
4,4'-DDT	7900	ug/Kg	ND	U	ND	U	ND	U	**4.4**	
Aldrin	97	ug/Kg	ND	U	ND	U	ND	U	ND	U
alpha-BHC	480	ug/Kg	ND	U	ND	U	ND	U	ND	U
alpha-Chlordane	4200	ug/Kg	ND	U	ND	U	ND	U	ND	U
beta-BHC	360	ug/Kg	ND	U	ND	U	ND	U	ND	U
delta-BHC	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Dieldrin	200	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endosulfan I	24000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endosulfan II	24000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endosulfan sulfate	24000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endrin	11000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endrin aldehyde	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endrin ketone	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
gamma-BHC (Lindane)	1300	ug/Kg	ND	U	ND	U	ND	U	ND	U
gamma-Chlordane	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Heptachlor	2100	ug/Kg	ND	U	ND	U	ND	U	ND	U
Heptachlor epoxide	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Methoxychlor	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Toxaphene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Herbicides										
2,4-D	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Silvex (2,4,5-TP)	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Metals										
Aluminum	-	mg/Kg	**13000**		**19200**		**9790**		**9760**	
Mercury	0.81	mg/Kg	**0.036**		**0.037**		**0.15**		**0.076**	
Antimony	-	mg/Kg	ND	U F1	ND	U	ND	U	ND	U
Arsenic	16	mg/Kg	**7.6**		**9.4**		**6**		**10.7**	
Barium	400	mg/Kg	**39.4**	F1	**119**		**28.7**		**55.3**	
Beryllium	72	mg/Kg	**0.54**		**0.88**		**0.36**		**0.44**	
Cadmium	4.3	mg/Kg	**0.11**	J	**0.1**	J	**0.14**	J	**0.19**	J
Calcium	-	mg/Kg	**918**		**1370**		**406**		**583**	
Chromium	180	mg/Kg	**16.7**	B	**26.3**	B	**12.5**	B	**15**	B
Cobalt	-	mg/Kg	**8.5**		**10.8**		**7.1**		**7.9**	
Copper	270	mg/Kg	**19.4**		**12.2**		**17.1**		**25.9**	
Iron	-	mg/Kg	**19600**		**27200**		**18100**		**26600**	
Lead	400	mg/Kg	**16.1**		**9.2**		**22.6**		**55.9**	
Magnesium	-	mg/Kg	**2680**		**3550**		**2840**		**2620**	
Manganese	2000	mg/Kg	**469**	B	**698**	B	**387**	B	**607**	B
Nickel	310	mg/Kg	**20.7**		**28**		**16**		**17.7**	
Potassium	-	mg/Kg	**1300**	F1 ^	**1370**	^	**701**		**1070**	
Selenium	180	mg/Kg	ND	U	**1.4**	J	**0.79**	J	**0.76**	J
Silver	180	mg/Kg	ND	U	ND	U	ND	U	ND	U
Sodium	-	mg/Kg	**56.5**	J B	**150**	J B	**29.3**	J B	**47.8**	J B
Thallium	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
Vanadium	-	mg/Kg	**18.9**	F1	**29**		**15.7**		**18.1**	
Zinc	10000	mg/Kg	**50.9**		**59.6**		**49.3**		**80.3**	

Footnotes

^ : ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

B : Compound was found in the blank and sample.

F1 : MS and/or MSD Recovery is outside acceptance limits.

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

Table 2

Collection of Soil Samples Downgradient of the Former Mobil Station on State Route 28

Ashokan Reservoir - Samples Downgradient of Former Mobil Station

Soil Investigation, B&L 369.007.001

TABLE 2		**Sample ID**	**SAMPLE-2**		**SAMPLE-3**		**SAMPLE-4**	
		Lab ID	**480-115585-2**		**480-115585-3**		**480-115585-4**	
Restricted Residential Soil Cleanup Objectives (RRSCO)		**Date**	**04/04/2017 09:25:00**		**04/04/2017 09:35:00**		**04/04/2017 09:45:00**	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Volatiles								
1,1,1-Trichloroethane	100000	ug/Kg	ND	U	ND	U	ND	U
1,1,2,2-Tetrachloroethane	-	ug/Kg	ND	U	ND	U	ND	U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	ug/Kg	ND	U	ND	U	ND	U
1,1,2-Trichloroethane	-	ug/Kg	ND	U	ND	U	ND	U
1,1-Dichloroethane	26000	ug/Kg	ND	U	ND	U	ND	U
1,1-Dichloroethene	100000	ug/Kg	ND	U	ND	U	ND	U
1,2,4-Trichlorobenzene	-	ug/Kg	ND	U	ND	U	ND	U
1,2-Dibromo-3-Chloropropane	-	ug/Kg	ND	U	ND	U	ND	U
1,2-Dibromoethane	-	ug/Kg	ND	U	ND	U	ND	U
1,2-Dichlorobenzene	100000	ug/Kg	ND	U	ND	U	ND	U
1,2-Dichloroethane	3100	ug/Kg	ND	U	ND	U	ND	U
1,2-Dichloropropane	-	ug/Kg	ND	U	ND	U	ND	U
1,3-Dichlorobenzene	49000	ug/Kg	ND	U	ND	U	ND	U
1,4-Dichlorobenzene	13000	ug/Kg	ND	U	ND	U	ND	U
2-Butanone (MEK)	100000	ug/Kg	ND	U	ND	U	ND	U
2-Hexanone	-	ug/Kg	ND	U	ND	U	ND	U
4-Methyl-2-pentanone (MIBK)	-	ug/Kg	ND	U	ND	U	ND	U
Acetone	100000	ug/Kg	**45**		ND	U	**10**	J
Benzene	4800	ug/Kg	ND	U	ND	U	ND	U
Bromodichloromethane	-	ug/Kg	ND	U	ND	U	ND	U
Bromoform	-	ug/Kg	ND	U	ND	U	ND	U
Bromomethane	-	ug/Kg	ND	U	ND	U	ND	U
Carbon disulfide	-	ug/Kg	ND	U	ND	U	ND	U
Carbon tetrachloride	2400	ug/Kg	ND	U	ND	U	ND	U
Chlorobenzene	100000	ug/Kg	ND	U	ND	U	ND	U
Chloroethane	-	ug/Kg	ND	U	ND	U	ND	U
Chloroform	49000	ug/Kg	ND	U	ND	U	ND	U
Chloromethane	-	ug/Kg	ND	U	ND	U	ND	U
cis-1,2-Dichloroethene	100000	ug/Kg	ND	U	ND	U	ND	U
cis-1,3-Dichloropropene	-	ug/Kg	ND	U	ND	U	ND	U
Cyclohexane	-	ug/Kg	ND	U	ND	U	ND	U
Dibromochloromethane	-	ug/Kg	ND	U	ND	U	ND	U
Dichlorodifluoromethane	-	ug/Kg	ND	U	ND	U	ND	U
Ethylbenzene	41000	ug/Kg	ND	U	ND	U	ND	U
Isopropylbenzene	-	ug/Kg	ND	U	ND	U	ND	U
Methyl acetate	-	ug/Kg	ND	U	ND	U	ND	U
Methyl tert-butyl ether	100000	ug/Kg	ND	U	ND	U	ND	U
Methylcyclohexane	-	ug/Kg	ND	U	ND	U	ND	U
Methylene Chloride	100000	ug/Kg	ND	U	ND	U	ND	U
Styrene	-	ug/Kg	ND	U	ND	U	ND	U
Tetrachloroethene	19000	ug/Kg	ND	U	ND	U	ND	U
Toluene	100000	ug/Kg	ND	U	ND	U	ND	U
trans-1,2-Dichloroethene	100000	ug/Kg	ND	U	ND	U	ND	U
trans-1,3-Dichloropropene	-	ug/Kg	ND	U	ND	U	ND	U
Trichloroethene	21000	ug/Kg	ND	U	ND	U	ND	U
Trichlorofluoromethane	-	ug/Kg	ND	U	ND	U	ND	U
Vinyl chloride	900	ug/Kg	ND	U	ND	U	ND	U
Xylenes, Total	100000	ug/Kg	ND	U	ND	U	ND	U
Total Conc	-		**45**				**10**	

Ashokan Reservoir - Samples Downgradient of Former Mobil Station

Soil Investigation, B&L 369.007.001

TABLE 2		Sample ID	SAMPLE-2		SAMPLE-3		SAMPLE-4	
		Lab ID	480-115585-2		480-115585-3		480-115585-4	
Restricted Residential Soil Cleanup Objectives (RRSCO)		Date	04/04/2017 09:25:00		04/04/2017 09:35:00		04/04/2017 09:45:00	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Semivolatiles								
2,4,5-Trichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U
2,4,6-Trichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U
2,4-Dichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U
2,4-Dimethylphenol	-	ug/Kg	ND	U	ND	U	ND	U
2,4-Dinitrophenol	-	ug/Kg	ND	U	ND	U	ND	U
2,4-Dinitrotoluene	-	ug/Kg	ND	U	ND	U	ND	U
2,6-Dinitrotoluene	-	ug/Kg	ND	U	ND	U	ND	U
2-Chloronaphthalene	-	ug/Kg	ND	U	ND	U	ND	U
2-Chlorophenol	-	ug/Kg	ND	U	ND	U	ND	U
2-Methylnaphthalene	-	ug/Kg	ND	U	ND	U	ND	U
2-Methylphenol	-	ug/Kg	ND	U	ND	U	ND	U
2-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U
2-Nitrophenol	-	ug/Kg	ND	U	ND	U	ND	U
3,3'-Dichlorobenzidine	-	ug/Kg	ND	U	ND	U	ND	U
3-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U
4,6-Dinitro-2-methylphenol	-	ug/Kg	ND	U	ND	U	ND	U
4-Bromophenyl phenyl ether	-	ug/Kg	ND	U	ND	U	ND	U
4-Chloro-3-methylphenol	-	ug/Kg	ND	U	ND	U	ND	U
4-Chloroaniline	-	ug/Kg	ND	U	ND	U	ND	U
4-Chlorophenyl phenyl ether	-	ug/Kg	ND	U	ND	U	ND	U
4-Methylphenol	-	ug/Kg	ND	U	ND	U	ND	U
4-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U
4-Nitrophenol	-	ug/Kg	ND	U	ND	U	ND	U
Acenaphthene	100000	ug/Kg	ND	U	ND	U	ND	U
Acenaphthylene	100000	ug/Kg	ND	U	ND	U	ND	U
Acetophenone	-	ug/Kg	ND	U	ND	U	ND	U
Anthracene	100000	ug/Kg	ND	U	ND	U	ND	U
Atrazine	-	ug/Kg	ND	U	ND	U	ND	U
Benzaldehyde	-	ug/Kg	ND	U	ND	U	ND	U
Benzo[a]anthracene	1000	ug/Kg	ND	U	ND	U	ND	U
Benzo[a]pyrene	1000	ug/Kg	ND	U	ND	U	ND	U
Benzo[b]fluoranthene	1000	ug/Kg	ND	U	ND	U	ND	U
Benzo[g,h,i]perylene	100000	ug/Kg	ND	U	ND	U	ND	U
Benzo[k]fluoranthene	3900	ug/Kg	ND	U	ND	U	ND	U
Biphenyl	-	ug/Kg	ND	U	ND	U	ND	U
bis (2-chloroisopropyl) ether	-	ug/Kg	ND	U	ND	U	ND	U
Bis(2-chloroethoxy)methane	-	ug/Kg	ND	U	ND	U	ND	U
Bis(2-chloroethyl)ether	-	ug/Kg	ND	U	ND	U	ND	U
Bis(2-ethylhexyl) phthalate	-	ug/Kg	**74**	J	ND	U	ND	U
Butyl benzyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U
Caprolactam	-	ug/Kg	ND	U	ND	U	ND	U
Carbazole	-	ug/Kg	ND	U	ND	U	ND	U
Chrysene	3900	ug/Kg	ND	U	ND	U	ND	U
Dibenz(a,h)anthracene	330	ug/Kg	ND	U	ND	U	ND	U
Dibenzofuran	59000	ug/Kg	ND	U	ND	U	ND	U
Diethyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U
Dimethyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U
Di-n-butyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U
Di-n-octyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U
Fluoranthene	100000	ug/Kg	**46**	J	ND	U	ND	U
Fluorene	100000	ug/Kg	ND	U	ND	U	ND	U
Hexachlorobenzene	-	ug/Kg	ND	U	ND	U	ND	U
Hexachlorobutadiene	-	ug/Kg	ND	U	ND	U	ND	U
Hexachlorocyclopentadiene	-	ug/Kg	ND	U	ND	U	ND	U
Hexachloroethane	-	ug/Kg	ND	U	ND	U	ND	U
Indeno[1,2,3-cd]pyrene	500	ug/Kg	ND	U	ND	U	ND	U
Isophorone	-	ug/Kg	ND	U	ND	U	ND	U
Naphthalene	100000	ug/Kg	ND	U	ND	U	ND	U
Nitrobenzene	-	ug/Kg	ND	U	ND	U	ND	U
N-Nitrosodi-n-propylamine	-	ug/Kg	ND	U	ND	U	ND	U
N-Nitrosodiphenylamine	-	ug/Kg	ND	U	ND	U	ND	U
Pentachlorophenol	6700	ug/Kg	ND	U	ND	U	ND	U
Phenanthrene	100000	ug/Kg	ND	U	ND	U	ND	U
Phenol	100000	ug/Kg	ND	U	ND	U	ND	U
Pyrene	100000	ug/Kg	**34**	J	ND	U	ND	U
Total Conc	-	ug/Kg	**154**					

Ashokan Reservoir - Samples Downgradient of Former Mobil Station

Soil Investigation, B&L 369.007.001

TABLE 2		**Sample ID**	**SAMPLE-2**		**SAMPLE-3**		**SAMPLE-4**	
		Lab ID	**480-115585-2**		**480-115585-3**		**480-115585-4**	
Restricted Residential Soil Cleanup Objectives (RRSCO)		**Date**	**04/04/2017 09:25:00**		**04/04/2017 09:35:00**		**04/04/2017 09:45:00**	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Metals								
Aluminum	-	mg/Kg	**17200**		**15500**		**19500**	
Mercury	0.81	mg/Kg	**0.06**		**0.095**		**0.044**	
Antimony	-	mg/Kg	ND	U	ND	U	ND	U
Arsenic	16	mg/Kg	**13.7**		**9.2**		**11**	
Barium	400	mg/Kg	**57.3**		**60.5**		**68.7**	
Beryllium	72	mg/Kg	**0.68**		**0.59**		**0.71**	
Cadmium	4.3	mg/Kg	**0.19**	J	**0.11**	J	**0.089**	J
Calcium	-	mg/Kg	**966**		**967**		**939**	
Chromium	180	mg/Kg	**22.9**	B	**21.9**	B	**23.9**	B
Cobalt	-	mg/Kg	**15.2**		**12.2**		**12.1**	
Copper	270	mg/Kg	**23.3**		**14.2**		**19.8**	
Iron	-	mg/Kg	**27600**		**28800**		**27100**	
Lead	400	mg/Kg	**40.9**		**25.5**		**20.5**	
Magnesium	-	mg/Kg	**4140**		**3490**		**3530**	
Manganese	2000	mg/Kg	**876**	B	**943**	B	**982**	B
Nickel	310	mg/Kg	**32.3**		**25.9**		**26.7**	
Potassium	-	mg/Kg	**1690**	^	**1660**	^	**1700**	^
Selenium	180	mg/Kg	ND	U	ND	U	**1.3**	J
Silver	180	mg/Kg	ND	U	ND	U	ND	U
Sodium	-	mg/Kg	**54.5**	J B	**58.7**	J B	**64.3**	J B
Thallium	-	mg/Kg	ND	U	ND	U	ND	U
Vanadium	-	mg/Kg	**28.4**		**26.4**		**30.6**	
Zinc	10000	mg/Kg	**88.5**		**75.5**		**85**	

Footnotes

^ : ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

B : Compound was found in the blank and sample.

F1 : MS and/or MSD Recovery is outside acceptance limits.

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

Table 3

Collection of Soil Samples at the Location of the Former Equipment Storage Facility/Proposed Trailhead Area

Ashokan Reservoir - Former Equipment Storage Facility/Proposed Trailhead Area

Soil Investigation, B&L 369.007.001

TABLE 3		**Sample ID**	**SAMPLE-5**		**SAMPLE-6**		**B-6**		**B-7**	
		Lab ID	480-115585-5		480-115585-6		480-115585-10		480-115585-11	
Restricted Residential Soil Cleanup Objectives (RRSCO)		**Date**	04/04/2017 11:00:00		04/04/2017 11:15:00		04/04/2017 16:00:00		04/04/2017 15:20:00	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Semivolatiles										
2,4,5-Trichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4,6-Trichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dichlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dimethylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dinitrophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,4-Dinitrotoluene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2,6-Dinitrotoluene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Chloronaphthalene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Chlorophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Methylnaphthalene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
2-Nitrophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
3,3'-Dichlorobenzidine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
3-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4,6-Dinitro-2-methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Bromophenyl phenyl ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Chloro-3-methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Chloroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Chlorophenyl phenyl ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Methylphenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Nitroaniline	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
4-Nitrophenol	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Acenaphthene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Acenaphthylene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Acetophenone	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Anthracene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Atrazine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Benzaldehyde	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Benzo[a]anthracene	1000	ug/Kg	**200**	J	ND	U	**90**	J	ND	U
Benzo[a]pyrene	1000	ug/Kg	ND	U	ND	U	**82**	J	ND	U
Benzo[b]fluoranthene	1000	ug/Kg	ND	U	ND	U	**150**	J	ND	U
Benzo[g,h,i]perylene	100000	ug/Kg	ND	U	ND	U	**61**	J	ND	U
Benzo[k]fluoranthene	3900	ug/Kg	ND	U	ND	U	**64**	J	ND	U
Biphenyl	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
bis (2-chloroisopropyl) ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Bis(2-chloroethoxy)methane	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Bis(2-chloroethyl)ether	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Bis(2-ethylhexyl) phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Butyl benzyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Caprolactam	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Carbazole	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Chrysene	3900	ug/Kg	ND	U	ND	U	**130**	J	ND	U
Dibenz(a,h)anthracene	330	ug/Kg	ND	U	ND	U	ND	U	ND	U
Dibenzofuran	59000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Diethyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Dimethyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Di-n-butyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Di-n-octyl phthalate	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Fluoranthene	100000	ug/Kg	**360**	J	ND	U	**240**		ND	U
Fluorene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachlorobenzene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachlorobutadiene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachlorocyclopentadiene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Hexachloroethane	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Indeno[1,2,3-cd]pyrene	500	ug/Kg	ND	U	ND	U	**57**	J	ND	U
Isophorone	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Naphthalene	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Nitrobenzene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
N-Nitrosodi-n-propylamine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
N-Nitrosodiphenylamine	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Pentachlorophenol	6700	ug/Kg	ND	U	ND	U	ND	U	ND	U
Phenanthrene	100000	ug/Kg	ND	U	ND	U	**70**	J	ND	U
Phenol	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Pyrene	100000	ug/Kg	**300**	J	ND	U	**170**	J	ND	U
Total Conc	-	ug/Kg	**860**				**1114**			

Ashokan Reservoir - Former Equipment Storage Facility/Proposed Trailhead Area

Soil Investigation, B&L 369.007.001

TABLE 3		Sample ID	SAMPLE-5		SAMPLE-6		B-6		B-7	
		Lab ID	480-115585-5		480-115585-6		480-115585-10		480-115585-11	
Restricted Residential Soil Cleanup Objectives (RRSCO)		Date	04/04/2017 11:00:00		04/04/2017 11:15:00		04/04/2017 16:00:00		04/04/2017 15:20:00	
COMPOUND	**RRSCO**	**Units**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Pesticides										
4,4'-DDD	13000	ug/Kg	ND	U	ND	U	ND	U	ND	U
4,4'-DDE	8900	ug/Kg	ND	U	ND	U	ND	U	ND	U
4,4'-DDT	7900	ug/Kg	**9.7**	J	ND	U	ND	U	ND	U
Aldrin	97	ug/Kg	ND	U	ND	U	ND	U	ND	U
alpha-BHC	480	ug/Kg	ND	U	ND	U	ND	U	ND	U
alpha-Chlordane	4200	ug/Kg	ND	U	ND	U	ND	U	ND	U
beta-BHC	360	ug/Kg	ND	U	ND	U	ND	U	ND	U
delta-BHC	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Dieldrin	200	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endosulfan I	24000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endosulfan II	24000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endosulfan sulfate	24000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endrin	11000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endrin aldehyde	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Endrin ketone	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
gamma-BHC (Lindane)	1300	ug/Kg	ND	U	ND	U	ND	U	ND	U
gamma-Chlordane	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Heptachlor	2100	ug/Kg	ND	U	ND	U	ND	U	ND	U
Heptachlor epoxide	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Methoxychlor	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Toxaphene	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
PCBs										
PCB-1016	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
PCB-1221	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
PCB-1232	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
PCB-1242	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
PCB-1248	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
PCB-1254	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
PCB-1260	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
Total Conc	1000	mg/Kg	ND		ND		ND		ND	
Herbicides										
2,4-D	-	ug/Kg	ND	U	ND	U	ND	U	ND	U
Silvex (2,4,5-TP)	100000	ug/Kg	ND	U	ND	U	ND	U	ND	U
Metals										
Aluminum	-	mg/Kg	**18900**		**10800**		**9450**		**13700**	
Mercury	0.81	mg/Kg	**0.2**		**0.35**		**0.054**		**0.06**	
Antimony	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
Arsenic	16	mg/Kg	**9.6**		**16**		**6.8**		**8.4**	
Barium	400	mg/Kg	**81.5**		**69.1**		**43.2**		**59.4**	
Beryllium	72	mg/Kg	**0.86**		**0.58**		**0.39**		**0.57**	
Cadmium	4.3	mg/Kg	**0.44**		**0.12**	J	**0.084**	J	**0.12**	J
Calcium	-	mg/Kg	**5670**		**1710**		**913**		**1110**	
Chromium	180	mg/Kg	**26**	B	**17.4**	B	**15**	B	**20.5**	B
Cobalt	-	mg/Kg	**13.5**		**15.6**		**9**		**10.3**	
Copper	270	mg/Kg	**24.2**		**28.3**		**14.9**		**22.7**	
Iron	-	mg/Kg	**27600**		**24900**		**21000**		**23000**	
Lead	400	mg/Kg	**170**		**35.6**		**14.5**		**27.4**	
Magnesium	-	mg/Kg	**4350**		**3130**		**3190**		**2800**	
Manganese	2000	mg/Kg	**661**	B	**722**	B	**481**	B	**985**	B
Nickel	310	mg/Kg	**29.5**		**27.1**		**22.3**		**24.6**	
Potassium	-	mg/Kg	**2340**	^	**1340**	^	**911**		**1190**	
Selenium	180	mg/Kg	**0.77**	J	**0.65**	J	ND	U	**1.3**	J
Silver	180	mg/Kg	ND	U	ND	U	ND	U	ND	U
Sodium	-	mg/Kg	**84.6**	J B	**75.2**	J B	**89.8**	J B	**183**	B
Thallium	-	mg/Kg	ND	U	ND	U	ND	U	ND	U
Vanadium	-	mg/Kg	**30.8**		**17.2**		**14.9**		**21.8**	
Zinc	10000	mg/Kg	**126**		**51.7**		**48.5**		**62.8**	

Footnotes

^ : ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

B : Compound was found in the blank and sample.

F1 : MS and/or MSD Recovery is outside acceptance limits.

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

Attachment A

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-115585-1
Client Project/Site: Ashokan

For:
Barton & Loguidice, D.P.C.
10 Airline Drive
Suite 200
Albany, New York 12205

Attn: Ms. Rosemary McCormick

Authorized for release by:
4/13/2017 11:35:00 AM
Rebecca Jones, Project Management Assistant I
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Designee for

Melissa Deyo, Project Manager I
(716)504-9874
melissa.deyo@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-115585-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-115585-1

Receipt
The samples were received on 4/5/2017 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 480-350542 recovered above the upper control limit for 2-Nitrophenol, 4-Nitrophenol and Hexachlorobutadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: SAMPLE-1 (480-115585-1), SAMPLE-2 (480-115585-2), SAMPLE-3 (480-115585-3), SAMPLE-4 (480-115585-4), SAMPLE-5 (480-115585-5), SAMPLE-6 (480-115585-6), SAMPLE-7 (480-115585-7), SAMPLE-8 (480-115585-8), SAMPLE-9 (480-115585-9), B-6 (480-115585-10) and B-7 (480-115585-11).

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: SAMPLE-5 (480-115585-5). These results have been reported and qualified.

Method(s) 8270D: The following samples were diluted due to appearance and viscosity: SAMPLE-5 (480-115585-5), SAMPLE-6 (480-115585-6) and SAMPLE-9 (480-115585-9). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8081B: The following sample was diluted due to the nature of the sample matrix: SAMPLE-5 (480-115585-5). As such, surrogate recoveries are below the calibration range,estimated and not representative. Elevated reporting limits (RLs) are provided.

Method(s) 8081B: For method 8081, the recovery of the one surrogate in samples SAMPLE-9 (480-115585-9) exceeds quality control limits due to the sample matrix. The recovery of the secondary surrogate is within quality control criteria; no corrective action is required.

Method(s) 8151A: The continuing calibration verification (CCV) associated with batch 480-350883 recovered above the upper control limit for Silvex (2,4,5-TP), 2,4-D and 2,4-Dichlorophenylacetic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: SAMPLE-1 (480-115585-1), SAMPLE-5 (480-115585-5), SAMPLE-6 (480-115585-6), SAMPLE-7 (480-115585-7), SAMPLE-8 (480-115585-8), SAMPLE-9 (480-115585-9), B-6 (480-115585-10) and B-7 (480-115585-11).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6010C: The low level continuing calibration verification (CCVL 480-351308/27) for analytical batch 480-351308 recovered above the upper control limit for Total Potassium. The samples associated with this CCVL were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples SAMPLE-1 (480-115585-1), SAMPLE-2 (480-115585-2), SAMPLE-3 (480-115585-3), SAMPLE-4 (480-115585-4), SAMPLE-5 (480-115585-5), SAMPLE-6 (480-115585-6), SAMPLE-7 (480-115585-7), (LCSSRM 480-350423/2-), (480-115585-B-1-E MS), (480-115585-B-1-F MSD) and (480-115585-B-1-D PDS) was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3550C: The following samples required a Florisil clean-up, via EPA Method 3620C, to reduce matrix interferences: SAMPLE-1 (480-115585-1), SAMPLE-5 (480-115585-5), SAMPLE-6 (480-115585-6), SAMPLE-7 (480-115585-7), SAMPLE-8 (480-115585-8), SAMPLE-9 (480-115585-9), B-6 (480-115585-10), B-7 (480-115585-11), (480-115585-A-8 MS) and (480-115585-A-8 MSD).

Job ID: 480-115585-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample ID: SAMPLE-1 Lab Sample ID: 480-115585-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	13000		11.7	5.2	mg/Kg	1	☼	6010C	Total/NA
Arsenic	7.6		2.3	0.47	mg/Kg	1	☼	6010C	Total/NA
Barium	39.4	F1	0.59	0.13	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.54		0.23	0.033	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.11	J	0.23	0.035	mg/Kg	1	☼	6010C	Total/NA
Calcium	918		58.7	3.9	mg/Kg	1	☼	6010C	Total/NA
Chromium	16.7	B	0.59	0.23	mg/Kg	1	☼	6010C	Total/NA
Cobalt	8.5		0.59	0.059	mg/Kg	1	☼	6010C	Total/NA
Copper	19.4		1.2	0.25	mg/Kg	1	☼	6010C	Total/NA
Iron	19600		11.7	4.1	mg/Kg	1	☼	6010C	Total/NA
Lead	16.1		1.2	0.28	mg/Kg	1	☼	6010C	Total/NA
Magnesium	2680		23.5	1.1	mg/Kg	1	☼	6010C	Total/NA
Manganese	469	B	0.23	0.038	mg/Kg	1	☼	6010C	Total/NA
Nickel	20.7		5.9	0.27	mg/Kg	1	☼	6010C	Total/NA
Potassium	1300	F1 ^	35.2	23.5	mg/Kg	1	☼	6010C	Total/NA
Sodium	56.5	J B	164	15.3	mg/Kg	1	☼	6010C	Total/NA
Vanadium	18.9	F1	0.59	0.13	mg/Kg	1	☼	6010C	Total/NA
Zinc	50.9		2.3	0.75	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.036		0.022	0.0087	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-2 Lab Sample ID: 480-115585-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	45		21	3.5	ug/Kg	1	☼	8260C	Total/NA
Bis(2-ethylhexyl) phthalate	74	J	200	67	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	46	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Pyrene	34	J	200	23	ug/Kg	1	☼	8270D	Total/NA
Aluminum	17200		12.4	5.5	mg/Kg	1	☼	6010C	Total/NA
Arsenic	13.7		2.5	0.50	mg/Kg	1	☼	6010C	Total/NA
Barium	57.3		0.62	0.14	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.68		0.25	0.035	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.19	J	0.25	0.037	mg/Kg	1	☼	6010C	Total/NA
Calcium	966		62.0	4.1	mg/Kg	1	☼	6010C	Total/NA
Chromium	22.9	B	0.62	0.25	mg/Kg	1	☼	6010C	Total/NA
Cobalt	15.2		0.62	0.062	mg/Kg	1	☼	6010C	Total/NA
Copper	23.3		1.2	0.26	mg/Kg	1	☼	6010C	Total/NA
Iron	27600		12.4	4.3	mg/Kg	1	☼	6010C	Total/NA
Lead	40.9		1.2	0.30	mg/Kg	1	☼	6010C	Total/NA
Magnesium	4140		24.8	1.1	mg/Kg	1	☼	6010C	Total/NA
Manganese	876	B	0.25	0.040	mg/Kg	1	☼	6010C	Total/NA
Nickel	32.3		6.2	0.29	mg/Kg	1	☼	6010C	Total/NA
Potassium	1690	^	37.2	24.8	mg/Kg	1	☼	6010C	Total/NA
Sodium	54.5	J B	174	16.1	mg/Kg	1	☼	6010C	Total/NA
Vanadium	28.4		0.62	0.14	mg/Kg	1	☼	6010C	Total/NA
Zinc	88.5		2.5	0.79	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.060		0.022	0.0089	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-3 Lab Sample ID: 480-115585-3

This Detection Summary does not include radiochemical test results.

Client Sample ID: SAMPLE-3 (Continued) Lab Sample ID: 480-115585-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	15500		12.0	5.3	mg/Kg	1	☼	6010C	Total/NA
Arsenic	9.2		2.4	0.48	mg/Kg	1	☼	6010C	Total/NA
Barium	60.5		0.60	0.13	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.59		0.24	0.033	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.11	J	0.24	0.036	mg/Kg	1	☼	6010C	Total/NA
Calcium	967		59.8	3.9	mg/Kg	1	☼	6010C	Total/NA
Chromium	21.9	B	0.60	0.24	mg/Kg	1	☼	6010C	Total/NA
Cobalt	12.2		0.60	0.060	mg/Kg	1	☼	6010C	Total/NA
Copper	14.2		1.2	0.25	mg/Kg	1	☼	6010C	Total/NA
Iron	28800		12.0	4.2	mg/Kg	1	☼	6010C	Total/NA
Lead	25.5		1.2	0.29	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3490		23.9	1.1	mg/Kg	1	☼	6010C	Total/NA
Manganese	943	B	0.24	0.038	mg/Kg	1	☼	6010C	Total/NA
Nickel	25.9		6.0	0.28	mg/Kg	1	☼	6010C	Total/NA
Potassium	1660	^	35.9	23.9	mg/Kg	1	☼	6010C	Total/NA
Sodium	58.7	J B	167	15.5	mg/Kg	1	☼	6010C	Total/NA
Vanadium	26.4		0.60	0.13	mg/Kg	1	☼	6010C	Total/NA
Zinc	75.5		2.4	0.77	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.095		0.024	0.0098	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-4 Lab Sample ID: 480-115585-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	10	J	20	3.3	ug/Kg	1	☼	8260C	Total/NA
Aluminum	19500		13.0	5.7	mg/Kg	1	☼	6010C	Total/NA
Arsenic	11.0		2.6	0.52	mg/Kg	1	☼	6010C	Total/NA
Barium	68.7		0.65	0.14	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.71		0.26	0.036	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.089	J	0.26	0.039	mg/Kg	1	☼	6010C	Total/NA
Calcium	939		65.1	4.3	mg/Kg	1	☼	6010C	Total/NA
Chromium	23.9	B	0.65	0.26	mg/Kg	1	☼	6010C	Total/NA
Cobalt	12.1		0.65	0.065	mg/Kg	1	☼	6010C	Total/NA
Copper	19.8		1.3	0.27	mg/Kg	1	☼	6010C	Total/NA
Iron	27100		13.0	4.6	mg/Kg	1	☼	6010C	Total/NA
Lead	20.5		1.3	0.31	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3530		26.1	1.2	mg/Kg	1	☼	6010C	Total/NA
Manganese	982	B	0.26	0.042	mg/Kg	1	☼	6010C	Total/NA
Nickel	26.7		6.5	0.30	mg/Kg	1	☼	6010C	Total/NA
Potassium	1700	^	39.1	26.1	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.3	J	5.2	0.52	mg/Kg	1	☼	6010C	Total/NA
Sodium	64.3	J B	182	16.9	mg/Kg	1	☼	6010C	Total/NA
Vanadium	30.6		0.65	0.14	mg/Kg	1	☼	6010C	Total/NA
Zinc	85.0		2.6	0.83	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.044		0.023	0.0093	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-5 Lab Sample ID: 480-115585-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	200	J	2000	200	ug/Kg	10	☼	8270D	Total/NA
Fluoranthene	360	J	2000	210	ug/Kg	10	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: SAMPLE-5 (Continued) Lab Sample ID: 480-115585-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	300	J	2000	240	ug/Kg	10	☼	8270D	Total/NA
4,4'-DDT	9.7	J	20	4.6	ug/Kg	10	☼	8081B	Total/NA
Aluminum	18900		12.8	5.6	mg/Kg	1	☼	6010C	Total/NA
Arsenic	9.6		2.6	0.51	mg/Kg	1	☼	6010C	Total/NA
Barium	81.5		0.64	0.14	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.86		0.26	0.036	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.44		0.26	0.038	mg/Kg	1	☼	6010C	Total/NA
Calcium	5670		63.8	4.2	mg/Kg	1	☼	6010C	Total/NA
Chromium	26.0	B	0.64	0.26	mg/Kg	1	☼	6010C	Total/NA
Cobalt	13.5		0.64	0.064	mg/Kg	1	☼	6010C	Total/NA
Copper	24.2		1.3	0.27	mg/Kg	1	☼	6010C	Total/NA
Iron	27600		12.8	4.5	mg/Kg	1	☼	6010C	Total/NA
Lead	170		1.3	0.31	mg/Kg	1	☼	6010C	Total/NA
Magnesium	4350		25.5	1.2	mg/Kg	1	☼	6010C	Total/NA
Manganese	661	B	0.26	0.041	mg/Kg	1	☼	6010C	Total/NA
Nickel	29.5		6.4	0.29	mg/Kg	1	☼	6010C	Total/NA
Potassium	2340	^	38.3	25.5	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.77	J	5.1	0.51	mg/Kg	1	☼	6010C	Total/NA
Sodium	84.6	J B	179	16.6	mg/Kg	1	☼	6010C	Total/NA
Vanadium	30.8		0.64	0.14	mg/Kg	1	☼	6010C	Total/NA
Zinc	126		2.6	0.82	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.20		0.023	0.0092	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-6 Lab Sample ID: 480-115585-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	10800		12.5	5.5	mg/Kg	1	☼	6010C	Total/NA
Arsenic	16.0		2.5	0.50	mg/Kg	1	☼	6010C	Total/NA
Barium	69.1		0.63	0.14	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.58		0.25	0.035	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.12	J	0.25	0.038	mg/Kg	1	☼	6010C	Total/NA
Calcium	1710		62.5	4.1	mg/Kg	1	☼	6010C	Total/NA
Chromium	17.4	B	0.63	0.25	mg/Kg	1	☼	6010C	Total/NA
Cobalt	15.6		0.63	0.063	mg/Kg	1	☼	6010C	Total/NA
Copper	28.3		1.3	0.26	mg/Kg	1	☼	6010C	Total/NA
Iron	24900		12.5	4.4	mg/Kg	1	☼	6010C	Total/NA
Lead	35.6		1.3	0.30	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3130		25.0	1.2	mg/Kg	1	☼	6010C	Total/NA
Manganese	722	B	0.25	0.040	mg/Kg	1	☼	6010C	Total/NA
Nickel	27.1		6.3	0.29	mg/Kg	1	☼	6010C	Total/NA
Potassium	1340	^	37.5	25.0	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.65	J	5.0	0.50	mg/Kg	1	☼	6010C	Total/NA
Sodium	75.2	J B	175	16.3	mg/Kg	1	☼	6010C	Total/NA
Vanadium	17.2		0.63	0.14	mg/Kg	1	☼	6010C	Total/NA
Zinc	51.7		2.5	0.80	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.35		0.023	0.0092	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-7 Lab Sample ID: 480-115585-7

This Detection Summary does not include radiochemical test results.

Client Sample ID: SAMPLE-7 (Continued)   Lab Sample ID: 480-115585-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	19200		11.2	4.9	mg/Kg	1	☼	6010C	Total/NA
Arsenic	9.4		2.2	0.45	mg/Kg	1	☼	6010C	Total/NA
Barium	119		0.56	0.12	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.88		0.22	0.031	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.10	J	0.22	0.034	mg/Kg	1	☼	6010C	Total/NA
Calcium	1370		56.1	3.7	mg/Kg	1	☼	6010C	Total/NA
Chromium	26.3	B	0.56	0.22	mg/Kg	1	☼	6010C	Total/NA
Cobalt	10.8		0.56	0.056	mg/Kg	1	☼	6010C	Total/NA
Copper	12.2		1.1	0.24	mg/Kg	1	☼	6010C	Total/NA
Iron	27200		11.2	3.9	mg/Kg	1	☼	6010C	Total/NA
Lead	9.2		1.1	0.27	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3550		22.4	1.0	mg/Kg	1	☼	6010C	Total/NA
Manganese	698	B	0.22	0.036	mg/Kg	1	☼	6010C	Total/NA
Nickel	28.0		5.6	0.26	mg/Kg	1	☼	6010C	Total/NA
Potassium	1370	^	33.6	22.4	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.4	J	4.5	0.45	mg/Kg	1	☼	6010C	Total/NA
Sodium	150	J B	157	14.6	mg/Kg	1	☼	6010C	Total/NA
Vanadium	29.0		0.56	0.12	mg/Kg	1	☼	6010C	Total/NA
Zinc	59.6		2.2	0.72	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.037		0.023	0.0092	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-8   Lab Sample ID: 480-115585-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	39	J	200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	52	J	200	32	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	22	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Chrysene	62	J	200	44	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	69	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	63	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	61	J	200	23	ug/Kg	1	☼	8270D	Total/NA
Aluminum	9790		12.2	5.4	mg/Kg	1	☼	6010C	Total/NA
Arsenic	6.0		2.4	0.49	mg/Kg	1	☼	6010C	Total/NA
Barium	28.7		0.61	0.13	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.36		0.24	0.034	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.14	J	0.24	0.037	mg/Kg	1	☼	6010C	Total/NA
Calcium	406		61.2	4.0	mg/Kg	1	☼	6010C	Total/NA
Chromium	12.5	B	0.61	0.24	mg/Kg	1	☼	6010C	Total/NA
Cobalt	7.1		0.61	0.061	mg/Kg	1	☼	6010C	Total/NA
Copper	17.1		1.2	0.26	mg/Kg	1	☼	6010C	Total/NA
Iron	18100		12.2	4.3	mg/Kg	1	☼	6010C	Total/NA
Lead	22.6		1.2	0.29	mg/Kg	1	☼	6010C	Total/NA
Magnesium	2840		24.5	1.1	mg/Kg	1	☼	6010C	Total/NA
Manganese	387	B	0.24	0.039	mg/Kg	1	☼	6010C	Total/NA
Nickel	16.0		6.1	0.28	mg/Kg	1	☼	6010C	Total/NA
Potassium	701		36.7	24.5	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.79	J	4.9	0.49	mg/Kg	1	☼	6010C	Total/NA
Sodium	29.3	J B	171	15.9	mg/Kg	1	☼	6010C	Total/NA
Vanadium	15.7		0.61	0.13	mg/Kg	1	☼	6010C	Total/NA
Zinc	49.3		2.4	0.78	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SAMPLE-8 (Continued) Lab Sample ID: 480-115585-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.15		0.024	0.0099	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SAMPLE-9 Lab Sample ID: 480-115585-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	240	J	1000	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	210	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	320	J	1000	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	130	J	1000	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	190	J	1000	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	370	J	1000	230	ug/Kg	5	☼	8270D	Total/NA
Fluoranthene	530	J	1000	110	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	310	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	360	J	1000	120	ug/Kg	5	☼	8270D	Total/NA
4,4'-DDE	4.0		2.0	0.42	ug/Kg	1	☼	8081B	Total/NA
4,4'-DDT	4.4		2.0	0.47	ug/Kg	1	☼	8081B	Total/NA
Aluminum	9760		12.8	5.6	mg/Kg	1	☼	6010C	Total/NA
Arsenic	10.7		2.6	0.51	mg/Kg	1	☼	6010C	Total/NA
Barium	55.3		0.64	0.14	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.44		0.26	0.036	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.19	J	0.26	0.039	mg/Kg	1	☼	6010C	Total/NA
Calcium	583		64.2	4.2	mg/Kg	1	☼	6010C	Total/NA
Chromium	15.0	B	0.64	0.26	mg/Kg	1	☼	6010C	Total/NA
Cobalt	7.9		0.64	0.064	mg/Kg	1	☼	6010C	Total/NA
Copper	25.9		1.3	0.27	mg/Kg	1	☼	6010C	Total/NA
Iron	26600		12.8	4.5	mg/Kg	1	☼	6010C	Total/NA
Lead	55.9		1.3	0.31	mg/Kg	1	☼	6010C	Total/NA
Magnesium	2620		25.7	1.2	mg/Kg	1	☼	6010C	Total/NA
Manganese	607	B	0.26	0.041	mg/Kg	1	☼	6010C	Total/NA
Nickel	17.7		6.4	0.30	mg/Kg	1	☼	6010C	Total/NA
Potassium	1070		38.5	25.7	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.76	J	5.1	0.51	mg/Kg	1	☼	6010C	Total/NA
Sodium	47.8	J B	180	16.7	mg/Kg	1	☼	6010C	Total/NA
Vanadium	18.1		0.64	0.14	mg/Kg	1	☼	6010C	Total/NA
Zinc	80.3		2.6	0.82	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.076		0.024	0.0099	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: B-6 Lab Sample ID: 480-115585-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	90	J	200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	82	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	150	J	200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	61	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	64	J	200	26	ug/Kg	1	☼	8270D	Total/NA
Chrysene	130	J	200	44	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	240		200	21	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	57	J	200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	70	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	170	J	200	23	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-6 (Continued) Lab Sample ID: 480-115585-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9450		12.3	5.4	mg/Kg	1	☼	6010C	Total/NA
Arsenic	6.8		2.5	0.49	mg/Kg	1	☼	6010C	Total/NA
Barium	43.2		0.62	0.14	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.39		0.25	0.035	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.084	J	0.25	0.037	mg/Kg	1	☼	6010C	Total/NA
Calcium	913		61.7	4.1	mg/Kg	1	☼	6010C	Total/NA
Chromium	15.0	B	0.62	0.25	mg/Kg	1	☼	6010C	Total/NA
Cobalt	9.0		0.62	0.062	mg/Kg	1	☼	6010C	Total/NA
Copper	14.9		1.2	0.26	mg/Kg	1	☼	6010C	Total/NA
Iron	21000		12.3	4.3	mg/Kg	1	☼	6010C	Total/NA
Lead	14.5		1.2	0.30	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3190		24.7	1.1	mg/Kg	1	☼	6010C	Total/NA
Manganese	481	B	0.25	0.039	mg/Kg	1	☼	6010C	Total/NA
Nickel	22.3		6.2	0.28	mg/Kg	1	☼	6010C	Total/NA
Potassium	911		37.0	24.7	mg/Kg	1	☼	6010C	Total/NA
Sodium	89.8	J B	173	16.0	mg/Kg	1	☼	6010C	Total/NA
Vanadium	14.9		0.62	0.14	mg/Kg	1	☼	6010C	Total/NA
Zinc	48.5		2.5	0.79	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.054		0.022	0.0088	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: B-7 Lab Sample ID: 480-115585-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	13700		11.8	5.2	mg/Kg	1	☼	6010C	Total/NA
Arsenic	8.4		2.4	0.47	mg/Kg	1	☼	6010C	Total/NA
Barium	59.4		0.59	0.13	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.57		0.24	0.033	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.12	J	0.24	0.035	mg/Kg	1	☼	6010C	Total/NA
Calcium	1110		59.0	3.9	mg/Kg	1	☼	6010C	Total/NA
Chromium	20.5	B	0.59	0.24	mg/Kg	1	☼	6010C	Total/NA
Cobalt	10.3		0.59	0.059	mg/Kg	1	☼	6010C	Total/NA
Copper	22.7		1.2	0.25	mg/Kg	1	☼	6010C	Total/NA
Iron	23000		11.8	4.1	mg/Kg	1	☼	6010C	Total/NA
Lead	27.4		1.2	0.28	mg/Kg	1	☼	6010C	Total/NA
Magnesium	2800		23.6	1.1	mg/Kg	1	☼	6010C	Total/NA
Manganese	985	B	0.24	0.038	mg/Kg	1	☼	6010C	Total/NA
Nickel	24.6		5.9	0.27	mg/Kg	1	☼	6010C	Total/NA
Potassium	1190		35.4	23.6	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.3	J	4.7	0.47	mg/Kg	1	☼	6010C	Total/NA
Sodium	183	B	165	15.4	mg/Kg	1	☼	6010C	Total/NA
Vanadium	21.8		0.59	0.13	mg/Kg	1	☼	6010C	Total/NA
Zinc	62.8		2.4	0.76	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.060		0.022	0.0091	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: SAMPLE-1
Date Collected: 04/04/17 09:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-1
Matrix: Solid
Percent Solids: 85.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2,4,6-Trichlorophenol	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2,4-Dinitrotoluene	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2-Chloronaphthalene	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2-Chlorophenol	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2-Methylnaphthalene	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
2-Nitrophenol	ND		200	55	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Methylphenol	ND		380	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Acenaphthene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Acenaphthylene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Acetophenone	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Anthracene	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Atrazine	ND		200	68	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Biphenyl	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
bis (2-chloroisopropyl) ether	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Bis(2-chloroethyl)ether	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Butyl benzyl phthalate	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Caprolactam	ND		200	59	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Carbazole	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Chrysene	ND		200	44	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Diethyl phthalate	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1

Client Sample Results

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: SAMPLE-1
Date Collected: 04/04/17 09:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-1
Matrix: Solid
Percent Solids: 85.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Fluorene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Hexachloroethane	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Isophorone	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Naphthalene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
N-Nitrosodi-n-propylamine	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Pentachlorophenol	ND		380	200	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Phenol	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1
Pyrene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*54 - 120*	*04/05/17 08:29*	*04/06/17 15:43*	*1*
2-Fluorobiphenyl	*72*		*60 - 120*	*04/05/17 08:29*	*04/06/17 15:43*	*1*
2-Fluorophenol	*63*		*52 - 120*	*04/05/17 08:29*	*04/06/17 15:43*	*1*
Nitrobenzene-d5	*65*		*53 - 120*	*04/05/17 08:29*	*04/06/17 15:43*	*1*
Phenol-d5	*66*		*54 - 120*	*04/05/17 08:29*	*04/06/17 15:43*	*1*
p-Terphenyl-d14	*87*		*65 - 121*	*04/05/17 08:29*	*04/06/17 15:43*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
4,4'-DDE	ND		1.9	0.40	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
4,4'-DDT	ND		1.9	0.45	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Aldrin	ND		1.9	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
alpha-Chlordane	ND		1.9	0.96	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Endrin ketone	ND		1.9	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
gamma-Chlordane	ND		1.9	0.61	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Methoxychlor	ND		1.9	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1
Toxaphene	ND		19	11	ug/Kg	☼	04/06/17 07:39	04/07/17 10:41	1

Client Sample Results

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: SAMPLE-1

Lab Sample ID: 480-115585-1

Date Collected: 04/04/17 09:00
Date Received: 04/05/17 01:00

Matrix: Solid
Percent Solids: 85.3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*45 - 120*	*04/06/17 07:39*	*04/07/17 10:41*	*1*
Tetrachloro-m-xylene	*59*		*30 - 124*	*04/06/17 07:39*	*04/07/17 10:41*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		19	12	ug/Kg	☼	04/05/17 09:29	04/07/17 18:47	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	04/05/17 09:29	04/07/17 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*90*		*28 - 129*	*04/05/17 09:29*	*04/07/17 18:47*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**13000**		11.7	5.2	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Antimony	ND	F1	17.6	0.47	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Arsenic	**7.6**		2.3	0.47	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Barium	**39.4**	**F1**	0.59	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Beryllium	**0.54**		0.23	0.033	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Cadmium	**0.11**	**J**	0.23	0.035	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Calcium	**918**		58.7	3.9	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Chromium	**16.7**	**B**	0.59	0.23	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Cobalt	**8.5**		0.59	0.059	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Copper	**19.4**		1.2	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Iron	**19600**		11.7	4.1	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Lead	**16.1**		1.2	0.28	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Magnesium	**2680**		23.5	1.1	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Manganese	**469**	**B**	0.23	0.038	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Nickel	**20.7**		5.9	0.27	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Potassium	**1300**	**F1 ^**	35.2	23.5	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Selenium	ND		4.7	0.47	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Silver	ND		0.70	0.23	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Sodium	**56.5**	**J B**	164	15.3	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Thallium	ND		7.0	0.35	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Vanadium	**18.9**	**F1**	0.59	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1
Zinc	**50.9**		2.3	0.75	mg/Kg	☼	04/05/17 16:15	04/10/17 16:45	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.036**		0.022	0.0087	mg/Kg	☼	04/05/17 09:15	04/05/17 12:06	1

Client Sample ID: SAMPLE-2

Lab Sample ID: 480-115585-2

Date Collected: 04/04/17 09:25
Date Received: 04/05/17 01:00

Matrix: Solid
Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.2	0.31	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,1,2,2-Tetrachloroethane	ND		4.2	0.68	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.2	0.96	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,1,2-Trichloroethane	ND		4.2	0.55	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,1-Dichloroethane	ND		4.2	0.51	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1

Client Sample ID: SAMPLE-2

Lab Sample ID: 480-115585-2

Date Collected: 04/04/17 09:25
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		4.2	0.52	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,2,4-Trichlorobenzene	ND		4.2	0.26	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,2-Dibromo-3-Chloropropane	ND		4.2	2.1	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,2-Dibromoethane	ND		4.2	0.54	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,2-Dichlorobenzene	ND		4.2	0.33	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,2-Dichloroethane	ND		4.2	0.21	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,2-Dichloropropane	ND		4.2	2.1	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,3-Dichlorobenzene	ND		4.2	0.22	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
1,4-Dichlorobenzene	ND		4.2	0.59	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
2-Butanone (MEK)	ND		21	1.5	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
2-Hexanone	ND		21	2.1	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
4-Methyl-2-pentanone (MIBK)	ND		21	1.4	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Acetone	**45**		21	3.5	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Benzene	ND		4.2	0.21	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Bromodichloromethane	ND		4.2	0.56	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Bromoform	ND		4.2	2.1	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Bromomethane	ND		4.2	0.38	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Carbon disulfide	ND		4.2	2.1	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Carbon tetrachloride	ND		4.2	0.41	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Chlorobenzene	ND		4.2	0.56	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Chloroethane	ND		4.2	0.95	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Chloroform	ND		4.2	0.26	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Chloromethane	ND		4.2	0.25	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
cis-1,2-Dichloroethene	ND		4.2	0.54	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
cis-1,3-Dichloropropene	ND		4.2	0.61	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Cyclohexane	ND		4.2	0.59	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Dibromochloromethane	ND		4.2	0.54	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Dichlorodifluoromethane	ND		4.2	0.35	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Ethylbenzene	ND		4.2	0.29	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Isopropylbenzene	ND		4.2	0.64	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Methyl acetate	ND		21	2.5	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Methyl tert-butyl ether	ND		4.2	0.41	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Methylcyclohexane	ND		4.2	0.64	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Methylene Chloride	ND		4.2	1.9	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Styrene	ND		4.2	0.21	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Tetrachloroethene	ND		4.2	0.57	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Toluene	ND		4.2	0.32	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
trans-1,2-Dichloroethene	ND		4.2	0.43	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
trans-1,3-Dichloropropene	ND		4.2	1.9	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Trichloroethene	ND		4.2	0.93	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Trichlorofluoromethane	ND		4.2	0.40	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Vinyl chloride	ND		4.2	0.51	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1
Xylenes, Total	ND		8.4	0.71	ug/Kg	☼	04/05/17 05:00	04/05/17 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/05/17 05:00*	*04/05/17 16:14*	*1*
4-Bromofluorobenzene (Surr)	*84*		*72 - 126*	*04/05/17 05:00*	*04/05/17 16:14*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/05/17 05:00*	*04/05/17 16:14*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*04/05/17 05:00*	*04/05/17 16:14*	*1*

Client Sample ID: SAMPLE-2

Date Collected: 04/04/17 09:25
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-2

Matrix: Solid
Percent Solids: 86.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2,4,6-Trichlorophenol	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2-Chloronaphthalene	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2-Chlorophenol	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2-Methylnaphthalene	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Methylphenol	ND		380	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Acenaphthene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Acenaphthylene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Acetophenone	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Anthracene	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Atrazine	ND		200	68	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Biphenyl	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
bis (2-chloroisopropyl) ether	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Bis(2-chloroethyl)ether	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Bis(2-ethylhexyl) phthalate	**74**	**J**	200	67	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Butyl benzyl phthalate	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Caprolactam	ND		200	59	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Carbazole	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Chrysene	ND		200	44	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Diethyl phthalate	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1

Client Sample ID: SAMPLE-2 Lab Sample ID: 480-115585-2

Date Collected: 04/04/17 09:25 Matrix: Solid
Date Received: 04/05/17 01:00 Percent Solids: 86.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	**46**	**J**	200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Fluorene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Hexachloroethane	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Isophorone	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Naphthalene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Pentachlorophenol	ND		380	200	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Phenol	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1
Pyrene	**34**	**J**	200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*54 - 120*	*04/05/17 08:29*	*04/06/17 16:10*	*1*
2-Fluorobiphenyl	*72*		*60 - 120*	*04/05/17 08:29*	*04/06/17 16:10*	*1*
2-Fluorophenol	*60*		*52 - 120*	*04/05/17 08:29*	*04/06/17 16:10*	*1*
Nitrobenzene-d5	*65*		*53 - 120*	*04/05/17 08:29*	*04/06/17 16:10*	*1*
Phenol-d5	*63*		*54 - 120*	*04/05/17 08:29*	*04/06/17 16:10*	*1*
p-Terphenyl-d14	*83*		*65 - 121*	*04/05/17 08:29*	*04/06/17 16:10*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**17200**		12.4	5.5	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Antimony	ND		18.6	0.50	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Arsenic	**13.7**		2.5	0.50	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Barium	**57.3**		0.62	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Beryllium	**0.68**		0.25	0.035	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Cadmium	**0.19**	**J**	0.25	0.037	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Calcium	**966**		62.0	4.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Chromium	**22.9**	**B**	0.62	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Cobalt	**15.2**		0.62	0.062	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Copper	**23.3**		1.2	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Iron	**27600**		12.4	4.3	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Lead	**40.9**		1.2	0.30	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Magnesium	**4140**		24.8	1.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Manganese	**876**	**B**	0.25	0.040	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Nickel	**32.3**		6.2	0.29	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Potassium	**1690**	**^**	37.2	24.8	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Selenium	ND		5.0	0.50	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Silver	ND		0.74	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Sodium	**54.5**	**J B**	174	16.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Thallium	ND		7.4	0.37	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Vanadium	**28.4**		0.62	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1
Zinc	**88.5**		2.5	0.79	mg/Kg	☼	04/05/17 16:15	04/10/17 17:12	1

Client Sample ID: SAMPLE-2

Lab Sample ID: 480-115585-2

Date Collected: 04/04/17 09:25
Date Received: 04/05/17 01:00

Matrix: Solid
Percent Solids: 86.2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.060		0.022	0.0089	mg/Kg	☼	04/05/17 09:15	04/05/17 12:12	1

Client Sample ID: SAMPLE-3

Lab Sample ID: 480-115585-3

Date Collected: 04/04/17 09:35
Date Received: 04/05/17 01:00

Matrix: Solid
Percent Solids: 81.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	0.29	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,1,2,2-Tetrachloroethane	ND		4.0	0.65	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	0.92	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,1,2-Trichloroethane	ND		4.0	0.52	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,1-Dichloroethane	ND		4.0	0.49	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,1-Dichloroethene	ND		4.0	0.49	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,2,4-Trichlorobenzene	ND		4.0	0.24	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,2-Dibromo-3-Chloropropane	ND		4.0	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,2-Dibromoethane	ND		4.0	0.52	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,2-Dichlorobenzene	ND		4.0	0.31	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,2-Dichloroethane	ND		4.0	0.20	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,2-Dichloropropane	ND		4.0	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,3-Dichlorobenzene	ND		4.0	0.21	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
1,4-Dichlorobenzene	ND		4.0	0.56	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
2-Butanone (MEK)	ND		20	1.5	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
2-Hexanone	ND		20	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
4-Methyl-2-pentanone (MIBK)	ND		20	1.3	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Acetone	ND		20	3.4	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Benzene	ND		4.0	0.20	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Bromodichloromethane	ND		4.0	0.54	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Bromoform	ND		4.0	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Bromomethane	ND		4.0	0.36	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Carbon disulfide	ND		4.0	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Carbon tetrachloride	ND		4.0	0.39	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Chlorobenzene	ND		4.0	0.53	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Chloroethane	ND		4.0	0.91	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Chloroform	ND		4.0	0.25	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Chloromethane	ND		4.0	0.24	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
cis-1,2-Dichloroethene	ND		4.0	0.51	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
cis-1,3-Dichloropropene	ND		4.0	0.58	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Cyclohexane	ND		4.0	0.56	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Dibromochloromethane	ND		4.0	0.51	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Dichlorodifluoromethane	ND		4.0	0.33	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Ethylbenzene	ND		4.0	0.28	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Isopropylbenzene	ND		4.0	0.61	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Methyl acetate	ND		20	2.4	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Methyl tert-butyl ether	ND		4.0	0.39	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Methylcyclohexane	ND		4.0	0.61	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Methylene Chloride	ND		4.0	1.8	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Styrene	ND		4.0	0.20	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Tetrachloroethene	ND		4.0	0.54	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Toluene	ND		4.0	0.30	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1

Client Sample Results

Client Sample ID: SAMPLE-3 Lab Sample ID: 480-115585-3

Date Collected: 04/04/17 09:35 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 81.9**

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		4.0	0.41	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
trans-1,3-Dichloropropene	ND		4.0	1.8	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Trichloroethene	ND		4.0	0.88	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Trichlorofluoromethane	ND		4.0	0.38	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Vinyl chloride	ND		4.0	0.49	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1
Xylenes, Total	ND		8.0	0.68	ug/Kg	☼	04/05/17 05:00	04/05/17 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*04/05/17 05:00*	*04/05/17 17:05*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 126*	*04/05/17 05:00*	*04/05/17 17:05*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*	*04/05/17 05:00*	*04/05/17 17:05*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*04/05/17 05:00*	*04/05/17 17:05*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2-Chloronaphthalene	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2-Chlorophenol	ND		200	37	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2-Methylphenol	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2-Nitroaniline	ND		400	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
2-Nitrophenol	ND		200	58	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
3,3'-Dichlorobenzidine	ND		400	240	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
3-Nitroaniline	ND		400	57	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4,6-Dinitro-2-methylphenol	ND		400	200	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Chloro-3-methylphenol	ND		200	51	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Chloroaniline	ND		200	51	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Methylphenol	ND		400	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Nitroaniline	ND		400	110	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
4-Nitrophenol	ND		400	140	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Acenaphthene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Acetophenone	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Anthracene	ND		200	51	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Atrazine	ND		200	71	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Biphenyl	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1

Client Sample ID: SAMPLE-3
Date Collected: 04/04/17 09:35
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-3
Matrix: Solid
Percent Solids: 81.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Bis(2-ethylhexyl) phthalate	ND		200	70	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Butyl benzyl phthalate	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Caprolactam	ND		200	61	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Carbazole	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Chrysene	ND		200	46	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Dibenzofuran	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Fluoranthene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Fluorene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Hexachlorobenzene	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Hexachlorocyclopentadiene	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Isophorone	ND		200	43	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Naphthalene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Nitrobenzene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
N-Nitrosodiphenylamine	ND		200	170	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Pentachlorophenol	ND		400	200	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Phenanthrene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Phenol	ND		200	31	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1
Pyrene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*94*		*54 - 120*	*04/05/17 08:29*	*04/06/17 16:36*	*1*
2-Fluorobiphenyl	*75*		*60 - 120*	*04/05/17 08:29*	*04/06/17 16:36*	*1*
2-Fluorophenol	*65*		*52 - 120*	*04/05/17 08:29*	*04/06/17 16:36*	*1*
Nitrobenzene-d5	*72*		*53 - 120*	*04/05/17 08:29*	*04/06/17 16:36*	*1*
Phenol-d5	*69*		*54 - 120*	*04/05/17 08:29*	*04/06/17 16:36*	*1*
p-Terphenyl-d14	*85*		*65 - 121*	*04/05/17 08:29*	*04/06/17 16:36*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15500**		12.0	5.3	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Antimony	ND		17.9	0.48	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Arsenic	**9.2**		2.4	0.48	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Barium	**60.5**		0.60	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Beryllium	**0.59**		0.24	0.033	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Cadmium	**0.11**	**J**	0.24	0.036	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Calcium	**967**		59.8	3.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Chromium	**21.9**	**B**	0.60	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Cobalt	**12.2**		0.60	0.060	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: SAMPLE-3 — Lab Sample ID: 480-115585-3

Date Collected: 04/04/17 09:35 — **Matrix: Solid**
Date Received: 04/05/17 01:00 — **Percent Solids: 81.9**

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**14.2**		1.2	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Iron	**28800**		12.0	4.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Lead	**25.5**		1.2	0.29	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Magnesium	**3490**		23.9	1.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Manganese	**943**	**B**	0.24	0.038	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Nickel	**25.9**		6.0	0.28	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Potassium	**1660**	**^**	35.9	23.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Selenium	ND		4.8	0.48	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Silver	ND		0.72	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Sodium	**58.7**	**J B**	167	15.5	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Thallium	ND		7.2	0.36	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Vanadium	**26.4**		0.60	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1
Zinc	**75.5**		2.4	0.77	mg/Kg	☼	04/05/17 16:15	04/10/17 17:15	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.095**		0.024	0.0098	mg/Kg	☼	04/05/17 09:15	04/05/17 12:14	1

Client Sample ID: SAMPLE-4 — Lab Sample ID: 480-115585-4

Date Collected: 04/04/17 09:45 — **Matrix: Solid**
Date Received: 04/05/17 01:00 — **Percent Solids: 83.6**

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		3.9	0.29	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,1,2,2-Tetrachloroethane	ND		3.9	0.64	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.9	0.90	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,1,2-Trichloroethane	ND		3.9	0.51	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,1-Dichloroethane	ND		3.9	0.48	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,1-Dichloroethene	ND		3.9	0.48	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,2,4-Trichlorobenzene	ND		3.9	0.24	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,2-Dibromo-3-Chloropropane	ND		3.9	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,2-Dibromoethane	ND		3.9	0.50	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,2-Dichlorobenzene	ND		3.9	0.31	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,2-Dichloroethane	ND		3.9	0.20	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,2-Dichloropropane	ND		3.9	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,3-Dichlorobenzene	ND		3.9	0.20	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
1,4-Dichlorobenzene	ND		3.9	0.55	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
2-Butanone (MEK)	ND		20	1.4	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
2-Hexanone	ND		20	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
4-Methyl-2-pentanone (MIBK)	ND		20	1.3	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Acetone	**10**	**J**	20	3.3	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Benzene	ND		3.9	0.19	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Bromodichloromethane	ND		3.9	0.53	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Bromoform	ND		3.9	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Bromomethane	ND		3.9	0.35	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Carbon disulfide	ND		3.9	2.0	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Carbon tetrachloride	ND		3.9	0.38	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Chlorobenzene	ND		3.9	0.52	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Chloroethane	ND		3.9	0.89	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: SAMPLE-4
Lab Sample ID: 480-115585-4

Date Collected: 04/04/17 09:45
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 83.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		3.9	0.24	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Chloromethane	ND		3.9	0.24	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
cis-1,2-Dichloroethene	ND		3.9	0.50	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
cis-1,3-Dichloropropene	ND		3.9	0.57	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Cyclohexane	ND		3.9	0.55	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Dibromochloromethane	ND		3.9	0.50	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Dichlorodifluoromethane	ND		3.9	0.32	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Ethylbenzene	ND		3.9	0.27	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Isopropylbenzene	ND		3.9	0.59	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Methyl acetate	ND		20	2.4	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Methyl tert-butyl ether	ND		3.9	0.39	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Methylcyclohexane	ND		3.9	0.60	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Methylene Chloride	ND		3.9	1.8	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Styrene	ND		3.9	0.20	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Tetrachloroethene	ND		3.9	0.53	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Toluene	ND		3.9	0.30	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
trans-1,2-Dichloroethene	ND		3.9	0.41	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
trans-1,3-Dichloropropene	ND		3.9	1.7	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Trichloroethene	ND		3.9	0.87	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Trichlorofluoromethane	ND		3.9	0.37	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Vinyl chloride	ND		3.9	0.48	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1
Xylenes, Total	ND		7.9	0.66	ug/Kg	☼	04/05/17 05:00	04/05/17 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*04/05/17 05:00*	*04/05/17 16:39*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 126*	*04/05/17 05:00*	*04/05/17 16:39*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/05/17 05:00*	*04/05/17 16:39*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*04/05/17 05:00*	*04/05/17 16:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2-Chlorophenol	ND		200	37	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2-Methylphenol	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1

Client Sample ID: SAMPLE-4 Lab Sample ID: 480-115585-4

Date Collected: 04/04/17 09:45 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 83.6**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4-Methylphenol	ND		390	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Acenaphthene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Acetophenone	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Anthracene	ND		200	50	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Atrazine	ND		200	70	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Biphenyl	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Caprolactam	ND		200	61	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Carbazole	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Chrysene	ND		200	45	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Dibenzofuran	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Fluoranthene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Fluorene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Isophorone	ND		200	43	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Naphthalene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Nitrobenzene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Phenanthrene	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Phenol	ND		200	31	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1
Pyrene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*100*		*54 - 120*	*04/05/17 08:29*	*04/06/17 17:03*	*1*
2-Fluorobiphenyl	*78*		*60 - 120*	*04/05/17 08:29*	*04/06/17 17:03*	*1*

Client Sample Results

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: SAMPLE-4

Date Collected: 04/04/17 09:45
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-4
Matrix: Solid
Percent Solids: 83.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*69*		*52 - 120*	*04/05/17 08:29*	*04/06/17 17:03*	*1*
Nitrobenzene-d5	*76*		*53 - 120*	*04/05/17 08:29*	*04/06/17 17:03*	*1*
Phenol-d5	*72*		*54 - 120*	*04/05/17 08:29*	*04/06/17 17:03*	*1*
p-Terphenyl-d14	*87*		*65 - 121*	*04/05/17 08:29*	*04/06/17 17:03*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**19500**		13.0	5.7	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Antimony	ND		19.5	0.52	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Arsenic	**11.0**		2.6	0.52	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Barium	**68.7**		0.65	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Beryllium	**0.71**		0.26	0.036	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Cadmium	**0.089**	**J**	0.26	0.039	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Calcium	**939**		65.1	4.3	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Chromium	**23.9**	**B**	0.65	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Cobalt	**12.1**		0.65	0.065	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Copper	**19.8**		1.3	0.27	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Iron	**27100**		13.0	4.6	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Lead	**20.5**		1.3	0.31	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Magnesium	**3530**		26.1	1.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Manganese	**982**	**B**	0.26	0.042	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Nickel	**26.7**		6.5	0.30	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Potassium	**1700**	**^**	39.1	26.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Selenium	**1.3**	**J**	5.2	0.52	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Silver	ND		0.78	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Sodium	**64.3**	**J B**	182	16.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Thallium	ND		7.8	0.39	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Vanadium	**30.6**		0.65	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1
Zinc	**85.0**		2.6	0.83	mg/Kg	☼	04/05/17 16:15	04/10/17 17:19	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.044**		0.023	0.0093	mg/Kg	☼	04/05/17 09:15	04/05/17 12:15	1

Client Sample ID: SAMPLE-5

Date Collected: 04/04/17 11:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-5
Matrix: Solid
Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		2000	550	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2,4,6-Trichlorophenol	ND		2000	400	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2,4-Dichlorophenol	ND		2000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2,4-Dimethylphenol	ND		2000	490	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2,4-Dinitrophenol	ND		20000	9300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2,4-Dinitrotoluene	ND		2000	420	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2,6-Dinitrotoluene	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2-Chloronaphthalene	ND		2000	330	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2-Chlorophenol	ND		2000	370	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2-Methylnaphthalene	ND		2000	400	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10

Client: Barton & Loguidice, D.P.C.
TestAmerica Job ID: 480-115585-1
Project/Site: Ashokan

Client Sample ID: SAMPLE-5
Lab Sample ID: 480-115585-5
Date Collected: 04/04/17 11:00
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2-Nitroaniline	ND		3900	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
2-Nitrophenol	ND		2000	570	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
3,3'-Dichlorobenzidine	ND		3900	2400	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
3-Nitroaniline	ND		3900	560	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4,6-Dinitro-2-methylphenol	ND		3900	2000	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Bromophenyl phenyl ether	ND		2000	290	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Chloro-3-methylphenol	ND		2000	500	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Chloroaniline	ND		2000	500	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Chlorophenyl phenyl ether	ND		2000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Methylphenol	ND		3900	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Nitroaniline	ND		3900	1100	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
4-Nitrophenol	ND		3900	1400	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Acenaphthene	ND		2000	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Acenaphthylene	ND		2000	260	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Acetophenone	ND		2000	270	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Anthracene	ND		2000	500	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Atrazine	ND		2000	700	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Benzaldehyde	ND		2000	1600	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Benzo[a]anthracene	**200**	**J**	2000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Benzo[a]pyrene	ND		2000	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Benzo[b]fluoranthene	ND		2000	320	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Benzo[g,h,i]perylene	ND		2000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Benzo[k]fluoranthene	ND		2000	260	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Biphenyl	ND		2000	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
bis (2-chloroisopropyl) ether	ND		2000	400	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Bis(2-chloroethoxy)methane	ND		2000	430	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Bis(2-chloroethyl)ether	ND		2000	260	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Bis(2-ethylhexyl) phthalate	ND		2000	690	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Butyl benzyl phthalate	ND		2000	330	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Caprolactam	ND		2000	610	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Carbazole	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Chrysene	ND		2000	450	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Dibenz(a,h)anthracene	ND		2000	360	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Dibenzofuran	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Diethyl phthalate	ND		2000	260	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Dimethyl phthalate	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Di-n-butyl phthalate	ND		2000	350	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Di-n-octyl phthalate	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Fluoranthene	**360**	**J**	2000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Fluorene	ND		2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Hexachlorobenzene	ND		2000	270	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Hexachlorobutadiene	ND		2000	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Hexachlorocyclopentadiene	ND		2000	270	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Hexachloroethane	ND		2000	260	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Indeno[1,2,3-cd]pyrene	ND		2000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Isophorone	ND		2000	430	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Naphthalene	ND		2000	260	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Nitrobenzene	ND		2000	230	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10

Client Sample ID: SAMPLE-5
Lab Sample ID: 480-115585-5

Date Collected: 04/04/17 11:00
Matrix: Solid

Date Received: 04/05/17 01:00
Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		2000	350	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
N-Nitrosodiphenylamine	ND		2000	1600	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Pentachlorophenol	ND		3900	2000	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Phenanthrene	ND		2000	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Phenol	ND		2000	310	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10
Pyrene	**300**	**J**	2000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*135*	*X*	*54 - 120*	*04/05/17 08:29*	*04/06/17 17:29*	*10*
2-Fluorobiphenyl	*86*		*60 - 120*	*04/05/17 08:29*	*04/06/17 17:29*	*10*
2-Fluorophenol	*75*		*52 - 120*	*04/05/17 08:29*	*04/06/17 17:29*	*10*
Nitrobenzene-d5	*79*		*53 - 120*	*04/05/17 08:29*	*04/06/17 17:29*	*10*
Phenol-d5	*77*		*54 - 120*	*04/05/17 08:29*	*04/06/17 17:29*	*10*
p-Terphenyl-d14	*82*		*65 - 121*	*04/05/17 08:29*	*04/06/17 17:29*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		20	3.8	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
4,4'-DDE	ND		20	4.1	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
4,4'-DDT	**9.7**	**J**	20	4.6	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Aldrin	ND		20	4.8	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
alpha-BHC	ND		20	3.5	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
alpha-Chlordane	ND		20	9.8	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
beta-BHC	ND		20	3.5	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
delta-BHC	ND		20	3.7	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Dieldrin	ND		20	4.7	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Endosulfan I	ND		20	3.8	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Endosulfan II	ND		20	3.5	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Endosulfan sulfate	ND		20	3.7	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Endrin	ND		20	3.9	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Endrin aldehyde	ND		20	5.0	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Endrin ketone	ND		20	4.8	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
gamma-BHC (Lindane)	ND		20	3.6	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
gamma-Chlordane	ND		20	6.3	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Heptachlor	ND		20	4.3	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Heptachlor epoxide	ND		20	5.1	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Methoxychlor	ND		20	4.0	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10
Toxaphene	ND		200	110	ug/Kg	☼	04/06/17 07:39	04/07/17 11:01	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*121*	*X*	*45 - 120*	*04/06/17 07:39*	*04/07/17 11:01*	*10*
Tetrachloro-m-xylene	*60*		*30 - 124*	*04/06/17 07:39*	*04/07/17 11:01*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.048	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1
PCB-1221	ND		0.25	0.048	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1
PCB-1232	ND		0.25	0.048	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1
PCB-1242	ND		0.25	0.048	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1
PCB-1248	ND		0.25	0.048	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1

Client Sample ID: SAMPLE-5 — Lab Sample ID: 480-115585-5

Date Collected: 04/04/17 11:00 — **Matrix: Solid**
Date Received: 04/05/17 01:00 — **Percent Solids: 83.8**

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1254	ND		0.25	0.12	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1
PCB-1260	ND		0.25	0.12	mg/Kg	☼	04/05/17 11:54	04/06/17 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*104*		*65 - 174*	*04/05/17 11:54*	*04/06/17 00:59*	*1*
Tetrachloro-m-xylene	*102*		*60 - 154*	*04/05/17 11:54*	*04/06/17 00:59*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	12	ug/Kg	☼	04/05/17 09:29	04/07/17 19:17	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	04/05/17 09:29	04/07/17 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*92*		*28 - 129*	*04/05/17 09:29*	*04/07/17 19:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**18900**		12.8	5.6	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Antimony	ND		19.1	0.51	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Arsenic	**9.6**		2.6	0.51	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Barium	**81.5**		0.64	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Beryllium	**0.86**		0.26	0.036	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Cadmium	**0.44**		0.26	0.038	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Calcium	**5670**		63.8	4.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Chromium	**26.0**	**B**	0.64	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Cobalt	**13.5**		0.64	0.064	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Copper	**24.2**		1.3	0.27	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Iron	**27600**		12.8	4.5	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Lead	**170**		1.3	0.31	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Magnesium	**4350**		25.5	1.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Manganese	**661**	**B**	0.26	0.041	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Nickel	**29.5**		6.4	0.29	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Potassium	**2340**	**^**	38.3	25.5	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Selenium	**0.77**	**J**	5.1	0.51	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Silver	ND		0.77	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Sodium	**84.6**	**J B**	179	16.6	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Thallium	ND		7.7	0.38	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Vanadium	**30.8**		0.64	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1
Zinc	**126**		2.6	0.82	mg/Kg	☼	04/05/17 16:15	04/10/17 17:22	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.20**		0.023	0.0092	mg/Kg	☼	04/05/17 09:15	04/05/17 12:19	1

Client Sample ID: SAMPLE-6 — Lab Sample ID: 480-115585-6

Date Collected: 04/04/17 11:15 — **Matrix: Solid**
Date Received: 04/05/17 01:00 — **Percent Solids: 82.9**

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		1000	270	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5

Client Sample ID: SAMPLE-6 **Lab Sample ID: 480-115585-6**
Date Collected: 04/04/17 11:15 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 82.9**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2,4-Dichlorophenol	ND		1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2,4-Dimethylphenol	ND		1000	240	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2,4-Dinitrophenol	ND		9700	4600	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2,4-Dinitrotoluene	ND		1000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2,6-Dinitrotoluene	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2-Chloronaphthalene	ND		1000	160	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2-Chlorophenol	ND		1000	180	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2-Methylnaphthalene	ND		1000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2-Methylphenol	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2-Nitroaniline	ND		1900	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
2-Nitrophenol	ND		1000	280	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
3,3'-Dichlorobenzidine	ND		1900	1200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
3-Nitroaniline	ND		1900	280	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4,6-Dinitro-2-methylphenol	ND		1900	1000	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Bromophenyl phenyl ether	ND		1000	140	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Chloro-3-methylphenol	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Chloroaniline	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Chlorophenyl phenyl ether	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Nitroaniline	ND		1900	520	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
4-Nitrophenol	ND		1900	700	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Acenaphthene	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Acenaphthylene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Acetophenone	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Anthracene	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Atrazine	ND		1000	350	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Benzaldehyde	ND		1000	790	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Benzo[a]anthracene	ND		1000	100	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Benzo[a]pyrene	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Benzo[g,h,i]perylene	ND		1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Benzo[k]fluoranthene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Biphenyl	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
bis (2-chloroisopropyl) ether	ND		1000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Bis(2-chloroethoxy)methane	ND		1000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Bis(2-chloroethyl)ether	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Bis(2-ethylhexyl) phthalate	ND		1000	340	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Butyl benzyl phthalate	ND		1000	160	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Caprolactam	ND		1000	300	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Carbazole	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Chrysene	ND		1000	220	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Dibenz(a,h)anthracene	ND		1000	180	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Dibenzofuran	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Diethyl phthalate	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Dimethyl phthalate	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Di-n-butyl phthalate	ND		1000	170	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Di-n-octyl phthalate	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Fluoranthene	ND		1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: SAMPLE-6 Lab Sample ID: 480-115585-6

Date Collected: 04/04/17 11:15 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 82.9**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Hexachlorobenzene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Hexachlorobutadiene	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Hexachlorocyclopentadiene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Hexachloroethane	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Indeno[1,2,3-cd]pyrene	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Isophorone	ND		1000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Naphthalene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Nitrobenzene	ND		1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
N-Nitrosodi-n-propylamine	ND		1000	170	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
N-Nitrosodiphenylamine	ND		1000	810	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Pentachlorophenol	ND		1900	1000	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Phenanthrene	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Phenol	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5
Pyrene	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 17:56	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*97*		*54 - 120*	*04/05/17 08:29*	*04/06/17 17:56*	*5*
2-Fluorobiphenyl	*81*		*60 - 120*	*04/05/17 08:29*	*04/06/17 17:56*	*5*
2-Fluorophenol	*72*		*52 - 120*	*04/05/17 08:29*	*04/06/17 17:56*	*5*
Nitrobenzene-d5	*73*		*53 - 120*	*04/05/17 08:29*	*04/06/17 17:56*	*5*
Phenol-d5	*72*		*54 - 120*	*04/05/17 08:29*	*04/06/17 17:56*	*5*
p-Terphenyl-d14	*76*		*65 - 121*	*04/05/17 08:29*	*04/06/17 17:56*	*5*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
alpha-Chlordane	ND		2.0	0.98	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
gamma-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1
Toxaphene	ND		20	12	ug/Kg	☼	04/06/17 07:39	04/07/17 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*98*		*45 - 120*	*04/06/17 07:39*	*04/07/17 11:21*	*1*

Client Sample ID: SAMPLE-6 | **Lab Sample ID: 480-115585-6**

Date Collected: 04/04/17 11:15 | **Matrix: Solid**

Date Received: 04/05/17 01:00 | **Percent Solids: 82.9**

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*30 - 124*	*04/06/17 07:39*	*04/07/17 11:21*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.050	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1
PCB-1221	ND		0.25	0.050	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1
PCB-1232	ND		0.25	0.050	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1
PCB-1242	ND		0.25	0.050	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1
PCB-1248	ND		0.25	0.050	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1
PCB-1254	ND		0.25	0.12	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1
PCB-1260	ND		0.25	0.12	mg/Kg	☼	04/05/17 11:54	04/06/17 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*119*		*65 - 174*	*04/05/17 11:54*	*04/06/17 01:15*	*1*
Tetrachloro-m-xylene	*107*		*60 - 154*	*04/05/17 11:54*	*04/06/17 01:15*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	12	ug/Kg	☼	04/05/17 09:29	04/07/17 19:47	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	04/05/17 09:29	04/07/17 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*82*		*28 - 129*	*04/05/17 09:29*	*04/07/17 19:47*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**10800**		12.5	5.5	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Antimony	ND		18.8	0.50	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Arsenic	**16.0**		2.5	0.50	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Barium	**69.1**		0.63	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Beryllium	**0.58**		0.25	0.035	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Cadmium	**0.12**	**J**	0.25	0.038	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Calcium	**1710**		62.5	4.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Chromium	**17.4**	**B**	0.63	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Cobalt	**15.6**		0.63	0.063	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Copper	**28.3**		1.3	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Iron	**24900**		12.5	4.4	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Lead	**35.6**		1.3	0.30	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Magnesium	**3130**		25.0	1.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Manganese	**722**	**B**	0.25	0.040	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Nickel	**27.1**		6.3	0.29	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Potassium	**1340**	**^**	37.5	25.0	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Selenium	**0.65**	**J**	5.0	0.50	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Silver	ND		0.75	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Sodium	**75.2**	**J B**	175	16.3	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Thallium	ND		7.5	0.38	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Vanadium	**17.2**		0.63	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1
Zinc	**51.7**		2.5	0.80	mg/Kg	☼	04/05/17 16:15	04/10/17 17:25	1

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: SAMPLE-6

Date Collected: 04/04/17 11:15
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-6
Matrix: Solid
Percent Solids: 82.9

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.35		0.023	0.0092	mg/Kg	☼	04/05/17 09:15	04/05/17 12:21	1

Client Sample ID: SAMPLE-7

Date Collected: 04/04/17 12:45
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-7
Matrix: Solid
Percent Solids: 86.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2,4-Dinitrophenol	ND		1900	880	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2-Chlorophenol	ND		190	35	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Methylphenol	ND		370	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Acenaphthene	ND		190	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Acenaphthylene	ND		190	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Acetophenone	ND		190	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Anthracene	ND		190	47	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Atrazine	ND		190	66	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Benzaldehyde	ND		190	150	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Biphenyl	ND		190	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Caprolactam	ND		190	57	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Carbazole	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1

Client Sample ID: SAMPLE-7 Lab Sample ID: 480-115585-7

Date Collected: 04/04/17 12:45 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 86.8**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		190	43	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Fluorene	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Isophorone	ND		190	40	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Naphthalene	ND		190	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Phenanthrene	ND		190	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Phenol	ND		190	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1
Pyrene	ND		190	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*87*		*54 - 120*	*04/05/17 08:29*	*04/06/17 18:22*	*1*
2-Fluorobiphenyl	*70*		*60 - 120*	*04/05/17 08:29*	*04/06/17 18:22*	*1*
2-Fluorophenol	*64*		*52 - 120*	*04/05/17 08:29*	*04/06/17 18:22*	*1*
Nitrobenzene-d5	*68*		*53 - 120*	*04/05/17 08:29*	*04/06/17 18:22*	*1*
Phenol-d5	*67*		*54 - 120*	*04/05/17 08:29*	*04/06/17 18:22*	*1*
p-Terphenyl-d14	*77*		*65 - 121*	*04/05/17 08:29*	*04/06/17 18:22*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
alpha-Chlordane	ND		1.9	0.94	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Endrin	ND		1.9	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1

Client Sample ID: SAMPLE-7

Date Collected: 04/04/17 12:45
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-7
Matrix: Solid
Percent Solids: 86.8

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		1.9	0.60	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Heptachlor epoxide	ND		1.9	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1
Toxaphene	ND		19	11	ug/Kg	☼	04/06/17 07:39	04/07/17 11:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*04/06/17 07:39*	*04/07/17 11:40*	*1*
Tetrachloro-m-xylene	*56*		*30 - 124*	*04/06/17 07:39*	*04/07/17 11:40*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		19	12	ug/Kg	☼	04/05/17 09:29	04/07/17 20:17	1
Silvex (2,4,5-TP)	ND		19	6.7	ug/Kg	☼	04/05/17 09:29	04/07/17 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*87*		*28 - 129*	*04/05/17 09:29*	*04/07/17 20:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**19200**		11.2	4.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Antimony	ND		16.8	0.45	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Arsenic	**9.4**		2.2	0.45	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Barium	**119**		0.56	0.12	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Beryllium	**0.88**		0.22	0.031	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Cadmium	**0.10**	**J**	0.22	0.034	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Calcium	**1370**		56.1	3.7	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Chromium	**26.3**	**B**	0.56	0.22	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Cobalt	**10.8**		0.56	0.056	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Copper	**12.2**		1.1	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Iron	**27200**		11.2	3.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Lead	**9.2**		1.1	0.27	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Magnesium	**3550**		22.4	1.0	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Manganese	**698**	**B**	0.22	0.036	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Nickel	**28.0**		5.6	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Potassium	**1370**	**^**	33.6	22.4	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Selenium	**1.4**	**J**	4.5	0.45	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Silver	ND		0.67	0.22	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Sodium	**150**	**J B**	157	14.6	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Thallium	ND		6.7	0.34	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Vanadium	**29.0**		0.56	0.12	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1
Zinc	**59.6**		2.2	0.72	mg/Kg	☼	04/05/17 16:15	04/10/17 17:29	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.037**		0.023	0.0092	mg/Kg	☼	04/05/17 09:15	04/05/17 12:22	1

Client Sample ID: SAMPLE-8 **Lab Sample ID: 480-115585-8**
Date Collected: 04/04/17 13:00 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 84.1**

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2,4-Dinitrophenol	ND		1900	920	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2-Chlorophenol	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
3,3'-Dichlorobenzidine	ND		390	230	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Methylphenol	ND		390	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Nitroaniline	ND		390	100	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Acenaphthene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Acetophenone	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Anthracene	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Atrazine	ND		200	69	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Benzo[a]anthracene	**39**	**J**	200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Benzo[b]fluoranthene	**52**	**J**	200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Benzo[g,h,i]perylene	**22**	**J**	200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Biphenyl	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Bis(2-ethylhexyl) phthalate	ND		200	68	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Caprolactam	ND		200	60	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Carbazole	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Chrysene	**62**	**J**	200	44	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: SAMPLE-8
Date Collected: 04/04/17 13:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-8
Matrix: Solid
Percent Solids: 84.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	**69**	**J**	200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Fluorene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Isophorone	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Naphthalene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Phenanthrene	**63**	**J**	200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Phenol	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1
Pyrene	**61**	**J**	200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*100*		*54 - 120*	*04/05/17 08:29*	*04/06/17 18:49*	*1*
2-Fluorobiphenyl	*85*		*60 - 120*	*04/05/17 08:29*	*04/06/17 18:49*	*1*
2-Fluorophenol	*69*		*52 - 120*	*04/05/17 08:29*	*04/06/17 18:49*	*1*
Nitrobenzene-d5	*77*		*53 - 120*	*04/05/17 08:29*	*04/06/17 18:49*	*1*
Phenol-d5	*70*		*54 - 120*	*04/05/17 08:29*	*04/06/17 18:49*	*1*
p-Terphenyl-d14	*95*		*65 - 121*	*04/05/17 08:29*	*04/06/17 18:49*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
4,4'-DDT	ND		1.9	0.45	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Aldrin	ND		1.9	0.48	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
alpha-Chlordane	ND		1.9	0.97	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Dieldrin	ND		1.9	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Endrin aldehyde	ND		1.9	0.50	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Endrin ketone	ND		1.9	0.48	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
gamma-BHC (Lindane)	ND		1.9	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
gamma-Chlordane	ND		1.9	0.62	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Methoxychlor	ND		1.9	0.40	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1
Toxaphene	ND		19	11	ug/Kg	☼	04/06/17 07:39	04/07/17 12:00	1

Client Sample ID: SAMPLE-8

Date Collected: 04/04/17 13:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-8
Matrix: Solid
Percent Solids: 84.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*108*		*45 - 120*	*04/06/17 07:39*	*04/07/17 12:00*	*1*
Tetrachloro-m-xylene	*82*		*30 - 124*	*04/06/17 07:39*	*04/07/17 12:00*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	12	ug/Kg	☼	04/05/17 09:29	04/07/17 20:47	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	04/05/17 09:29	04/07/17 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*28 - 129*	*04/05/17 09:29*	*04/07/17 20:47*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9790**		12.2	5.4	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Antimony	ND		18.3	0.49	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Arsenic	**6.0**		2.4	0.49	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Barium	**28.7**		0.61	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Beryllium	**0.36**		0.24	0.034	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Cadmium	**0.14**	**J**	0.24	0.037	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Calcium	**406**		61.2	4.0	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Chromium	**12.5**	**B**	0.61	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Cobalt	**7.1**		0.61	0.061	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Copper	**17.1**		1.2	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Iron	**18100**		12.2	4.3	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Lead	**22.6**		1.2	0.29	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Magnesium	**2840**		24.5	1.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Manganese	**387**	**B**	0.24	0.039	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Nickel	**16.0**		6.1	0.28	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Potassium	**701**		36.7	24.5	mg/Kg	☼	04/05/17 16:15	04/11/17 13:28	1
Selenium	**0.79**	**J**	4.9	0.49	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Silver	ND		0.73	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Sodium	**29.3**	**J B**	171	15.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Thallium	ND		7.3	0.37	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Vanadium	**15.7**		0.61	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1
Zinc	**49.3**		2.4	0.78	mg/Kg	☼	04/05/17 16:15	04/10/17 17:32	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.15**		0.024	0.0099	mg/Kg	☼	04/05/17 09:15	04/05/17 12:24	1

Client Sample ID: SAMPLE-9

Date Collected: 04/04/17 13:25
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-9
Matrix: Solid
Percent Solids: 81.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		1000	280	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2,4,6-Trichlorophenol	ND		1000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2,4-Dichlorophenol	ND		1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2,4-Dimethylphenol	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2,4-Dinitrophenol	ND		10000	4700	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5

Client Sample ID: SAMPLE-9 **Lab Sample ID: 480-115585-9**
Date Collected: 04/04/17 13:25 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 81.4**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		1000	210	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2,6-Dinitrotoluene	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2-Chloronaphthalene	ND		1000	170	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2-Chlorophenol	ND		1000	190	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2-Methylnaphthalene	ND		1000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2-Methylphenol	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2-Nitroaniline	ND		2000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
2-Nitrophenol	ND		1000	290	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
3,3'-Dichlorobenzidine	ND		2000	1200	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
3-Nitroaniline	ND		2000	280	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4,6-Dinitro-2-methylphenol	ND		2000	1000	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Bromophenyl phenyl ether	ND		1000	140	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Chloro-3-methylphenol	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Chloroaniline	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Chlorophenyl phenyl ether	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Methylphenol	ND		2000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Nitroaniline	ND		2000	540	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
4-Nitrophenol	ND		2000	720	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Acenaphthene	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Acenaphthylene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Acetophenone	ND		1000	140	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Anthracene	ND		1000	250	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Atrazine	ND		1000	350	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Benzaldehyde	ND		1000	810	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Benzo[a]anthracene	**240**	**J**	1000	100	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Benzo[a]pyrene	**210**	**J**	1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Benzo[b]fluoranthene	**320**	**J**	1000	160	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Benzo[g,h,i]perylene	**130**	**J**	1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Benzo[k]fluoranthene	**190**	**J**	1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Biphenyl	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
bis (2-chloroisopropyl) ether	ND		1000	200	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Bis(2-chloroethoxy)methane	ND		1000	220	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Bis(2-chloroethyl)ether	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Bis(2-ethylhexyl) phthalate	ND		1000	350	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Butyl benzyl phthalate	ND		1000	170	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Caprolactam	ND		1000	310	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Carbazole	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Chrysene	**370**	**J**	1000	230	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Dibenz(a,h)anthracene	ND		1000	180	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Dibenzofuran	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Diethyl phthalate	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Dimethyl phthalate	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Di-n-butyl phthalate	ND		1000	170	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Di-n-octyl phthalate	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Fluoranthene	**530**	**J**	1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Fluorene	ND		1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Hexachlorobenzene	ND		1000	140	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Hexachlorobutadiene	ND		1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Hexachlorocyclopentadiene	ND		1000	140	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5

Client Sample ID: SAMPLE-9

Lab Sample ID: 480-115585-9

Date Collected: 04/04/17 13:25
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 81.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Indeno[1,2,3-cd]pyrene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Isophorone	ND		1000	220	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Naphthalene	ND		1000	130	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Nitrobenzene	ND		1000	110	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
N-Nitrosodi-n-propylamine	ND		1000	170	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
N-Nitrosodiphenylamine	ND		1000	830	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Pentachlorophenol	ND		2000	1000	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Phenanthrene	**310**	**J**	1000	150	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Phenol	ND		1000	160	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5
Pyrene	**360**	**J**	1000	120	ug/Kg	☼	04/05/17 08:29	04/06/17 19:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*105*		*54 - 120*	*04/05/17 08:29*	*04/06/17 19:15*	*5*
2-Fluorobiphenyl	*90*		*60 - 120*	*04/05/17 08:29*	*04/06/17 19:15*	*5*
2-Fluorophenol	*82*		*52 - 120*	*04/05/17 08:29*	*04/06/17 19:15*	*5*
Nitrobenzene-d5	*82*		*53 - 120*	*04/05/17 08:29*	*04/06/17 19:15*	*5*
Phenol-d5	*84*		*54 - 120*	*04/05/17 08:29*	*04/06/17 19:15*	*5*
p-Terphenyl-d14	*91*		*65 - 121*	*04/05/17 08:29*	*04/06/17 19:15*	*5*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
4,4'-DDE	**4.0**		2.0	0.42	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
4,4'-DDT	**4.4**		2.0	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
alpha-Chlordane	ND		2.0	0.99	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
gamma-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1
Toxaphene	ND		20	12	ug/Kg	☼	04/06/17 07:39	04/07/17 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*158*	*X*	*45 - 120*	*04/06/17 07:39*	*04/07/17 12:20*	*1*
Tetrachloro-m-xylene	*60*		*30 - 124*	*04/06/17 07:39*	*04/07/17 12:20*	*1*

Client Sample ID: SAMPLE-9

Lab Sample ID: 480-115585-9

Date Collected: 04/04/17 13:25
Date Received: 04/05/17 01:00

Matrix: Solid
Percent Solids: 81.4

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	13	ug/Kg	☼	04/05/17 09:29	04/07/17 21:17	1
Silvex (2,4,5-TP)	ND		20	7.3	ug/Kg	☼	04/05/17 09:29	04/07/17 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*28 - 129*	*04/05/17 09:29*	*04/07/17 21:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9760**		12.8	5.6	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Antimony	ND		19.3	0.51	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Arsenic	**10.7**		2.6	0.51	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Barium	**55.3**		0.64	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Beryllium	**0.44**		0.26	0.036	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Cadmium	**0.19**	**J**	0.26	0.039	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Calcium	**583**		64.2	4.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Chromium	**15.0**	**B**	0.64	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Cobalt	**7.9**		0.64	0.064	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Copper	**25.9**		1.3	0.27	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Iron	**26600**		12.8	4.5	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Lead	**55.9**		1.3	0.31	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Magnesium	**2620**		25.7	1.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Manganese	**607**	**B**	0.26	0.041	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Nickel	**17.7**		6.4	0.30	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Potassium	**1070**		38.5	25.7	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Selenium	**0.76**	**J**	5.1	0.51	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Silver	ND		0.77	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Sodium	**47.8**	**J B**	180	16.7	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Thallium	ND		7.7	0.39	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Vanadium	**18.1**		0.64	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1
Zinc	**80.3**		2.6	0.82	mg/Kg	☼	04/05/17 16:15	04/10/17 17:46	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.076**		0.024	0.0099	mg/Kg	☼	04/05/17 09:15	04/05/17 12:25	1

Client Sample ID: B-6

Lab Sample ID: 480-115585-10

Date Collected: 04/04/17 16:00
Date Received: 04/05/17 01:00

Matrix: Solid
Percent Solids: 85.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2,4,6-Trichlorophenol	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2-Chlorophenol	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1

Client Sample ID: B-6 Lab Sample ID: 480-115585-10

Date Collected: 04/04/17 16:00 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 85.2**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
3-Nitroaniline	ND		380	55	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Methylphenol	ND		380	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Acenaphthene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Acetophenone	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Anthracene	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Atrazine	ND		200	69	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Benzo[a]anthracene	**90**	**J**	200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Benzo[a]pyrene	**82**	**J**	200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Benzo[b]fluoranthene	**150**	**J**	200	31	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Benzo[g,h,i]perylene	**61**	**J**	200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Benzo[k]fluoranthene	**64**	**J**	200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Biphenyl	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
bis (2-chloroisopropyl) ether	ND		200	39	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Caprolactam	ND		200	59	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Carbazole	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Chrysene	**130**	**J**	200	44	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Fluoranthene	**240**		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Fluorene	ND		200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Indeno[1,2,3-cd]pyrene	**57**	**J**	200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Isophorone	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Naphthalene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1

Client Sample ID: B-6 **Lab Sample ID: 480-115585-10**
Date Collected: 04/04/17 16:00 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 85.2**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Pentachlorophenol	ND		380	200	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Phenanthrene	**70**	**J**	200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Phenol	ND		200	30	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1
Pyrene	**170**	**J**	200	23	ug/Kg	☼	04/05/17 08:29	04/06/17 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*97*		*54 - 120*	*04/05/17 08:29*	*04/06/17 19:41*	*1*
2-Fluorobiphenyl	*81*		*60 - 120*	*04/05/17 08:29*	*04/06/17 19:41*	*1*
2-Fluorophenol	*65*		*52 - 120*	*04/05/17 08:29*	*04/06/17 19:41*	*1*
Nitrobenzene-d5	*73*		*53 - 120*	*04/05/17 08:29*	*04/06/17 19:41*	*1*
Phenol-d5	*69*		*54 - 120*	*04/05/17 08:29*	*04/06/17 19:41*	*1*
p-Terphenyl-d14	*87*		*65 - 121*	*04/05/17 08:29*	*04/06/17 19:41*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Aldrin	ND		2.0	0.48	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
alpha-BHC	ND		2.0	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
alpha-Chlordane	ND		2.0	0.97	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
beta-BHC	ND		2.0	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
delta-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Endosulfan I	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Endosulfan II	ND		2.0	0.35	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Endosulfan sulfate	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Endrin aldehyde	ND		2.0	0.50	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Endrin ketone	ND		2.0	0.48	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
gamma-Chlordane	ND		2.0	0.62	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Heptachlor	ND		2.0	0.42	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Heptachlor epoxide	ND		2.0	0.50	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1
Toxaphene	ND		20	11	ug/Kg	☼	04/06/17 07:39	04/07/17 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*114*		*45 - 120*	*04/06/17 07:39*	*04/07/17 12:39*	*1*
Tetrachloro-m-xylene	*61*		*30 - 124*	*04/06/17 07:39*	*04/07/17 12:39*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.042	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1
PCB-1221	ND		0.21	0.042	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1
PCB-1232	ND		0.21	0.042	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1
PCB-1242	ND		0.21	0.042	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: B-6
Date Collected: 04/04/17 16:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-10
Matrix: Solid
Percent Solids: 85.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1248	ND		0.21	0.042	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1
PCB-1254	ND		0.21	0.10	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1
PCB-1260	ND		0.21	0.10	mg/Kg	☼	04/05/17 11:54	04/06/17 01:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*134*		*65 - 174*	*04/05/17 11:54*	*04/06/17 01:31*	*1*
Tetrachloro-m-xylene	*116*		*60 - 154*	*04/05/17 11:54*	*04/06/17 01:31*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	12	ug/Kg	☼	04/05/17 09:29	04/07/17 22:17	1
Silvex (2,4,5-TP)	ND		20	7.0	ug/Kg	☼	04/05/17 09:29	04/07/17 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*28 - 129*	*04/05/17 09:29*	*04/07/17 22:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9450**		12.3	5.4	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Antimony	ND		18.5	0.49	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Arsenic	**6.8**		2.5	0.49	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Barium	**43.2**		0.62	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Beryllium	**0.39**		0.25	0.035	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Cadmium	**0.084**	**J**	0.25	0.037	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Calcium	**913**		61.7	4.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Chromium	**15.0**	**B**	0.62	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Cobalt	**9.0**		0.62	0.062	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Copper	**14.9**		1.2	0.26	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Iron	**21000**		12.3	4.3	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Lead	**14.5**		1.2	0.30	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Magnesium	**3190**		24.7	1.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Manganese	**481**	**B**	0.25	0.039	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Nickel	**22.3**		6.2	0.28	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Potassium	**911**		37.0	24.7	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Selenium	ND		4.9	0.49	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Silver	ND		0.74	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Sodium	**89.8**	**J B**	173	16.0	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Thallium	ND		7.4	0.37	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Vanadium	**14.9**		0.62	0.14	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1
Zinc	**48.5**		2.5	0.79	mg/Kg	☼	04/05/17 16:15	04/10/17 17:49	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.054**		0.022	0.0088	mg/Kg	☼	04/05/17 09:15	04/05/17 12:26	1

Client Sample ID: B-7 **Lab Sample ID: 480-115585-11**
Date Collected: 04/04/17 15:20 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 83.2**

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2,4-Dinitrophenol	ND		2000	920	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2-Chlorophenol	ND		200	36	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2-Methylphenol	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Methylphenol	ND		390	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Nitroaniline	ND		390	100	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Acenaphthene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Acetophenone	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Anthracene	ND		200	49	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Atrazine	ND		200	69	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Benzaldehyde	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Biphenyl	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Bis(2-ethylhexyl) phthalate	ND		200	68	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Caprolactam	ND		200	60	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Carbazole	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Chrysene	ND		200	45	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Dibenzofuran	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1

Client Sample ID: B-7
Lab Sample ID: 480-115585-11

Date Collected: 04/04/17 15:20
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		200	21	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Fluorene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Isophorone	ND		200	42	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Naphthalene	ND		200	26	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Phenol	ND		200	31	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1
Pyrene	ND		200	24	ug/Kg	☼	04/05/17 08:29	04/06/17 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*54 - 120*	*04/05/17 08:29*	*04/06/17 20:08*	*1*
2-Fluorobiphenyl	*83*		*60 - 120*	*04/05/17 08:29*	*04/06/17 20:08*	*1*
2-Fluorophenol	*72*		*52 - 120*	*04/05/17 08:29*	*04/06/17 20:08*	*1*
Nitrobenzene-d5	*79*		*53 - 120*	*04/05/17 08:29*	*04/06/17 20:08*	*1*
Phenol-d5	*73*		*54 - 120*	*04/05/17 08:29*	*04/06/17 20:08*	*1*
p-Terphenyl-d14	*94*		*65 - 121*	*04/05/17 08:29*	*04/06/17 20:08*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
alpha-Chlordane	ND		2.0	0.98	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Endrin aldehyde	ND		2.0	0.50	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
gamma-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1
Toxaphene	ND		20	11	ug/Kg	☼	04/06/17 07:39	04/07/17 12:59	1

Client Sample ID: B-7
Date Collected: 04/04/17 15:20
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-11
Matrix: Solid
Percent Solids: 83.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*45 - 120*	*04/06/17 07:39*	*04/07/17 12:59*	*1*
Tetrachloro-m-xylene	*62*		*30 - 124*	*04/06/17 07:39*	*04/07/17 12:59*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.044	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1
PCB-1221	ND		0.22	0.044	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1
PCB-1232	ND		0.22	0.044	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1
PCB-1242	ND		0.22	0.044	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1
PCB-1248	ND		0.22	0.044	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/05/17 11:54	04/06/17 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*123*		*65 - 174*	*04/05/17 11:54*	*04/06/17 01:47*	*1*
Tetrachloro-m-xylene	*112*		*60 - 154*	*04/05/17 11:54*	*04/06/17 01:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	12	ug/Kg	☼	04/05/17 09:29	04/07/17 22:47	1
Silvex (2,4,5-TP)	ND		20	7.0	ug/Kg	☼	04/05/17 09:29	04/07/17 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*28 - 129*	*04/05/17 09:29*	*04/07/17 22:47*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**13700**		11.8	5.2	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Antimony	ND		17.7	0.47	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Arsenic	**8.4**		2.4	0.47	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Barium	**59.4**		0.59	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Beryllium	**0.57**		0.24	0.033	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Cadmium	**0.12**	**J**	0.24	0.035	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Calcium	**1110**		59.0	3.9	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Chromium	**20.5**	**B**	0.59	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Cobalt	**10.3**		0.59	0.059	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Copper	**22.7**		1.2	0.25	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Iron	**23000**		11.8	4.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Lead	**27.4**		1.2	0.28	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Magnesium	**2800**		23.6	1.1	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Manganese	**985**	**B**	0.24	0.038	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Nickel	**24.6**		5.9	0.27	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Potassium	**1190**		35.4	23.6	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Selenium	**1.3**	**J**	4.7	0.47	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Silver	ND		0.71	0.24	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Sodium	**183**	**B**	165	15.4	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Thallium	ND		7.1	0.35	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Vanadium	**21.8**		0.59	0.13	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1
Zinc	**62.8**		2.4	0.76	mg/Kg	☼	04/05/17 16:15	04/10/17 17:53	1

Client Sample ID: B-7 **Lab Sample ID: 480-115585-11**
Date Collected: 04/04/17 15:20 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 83.2**

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.060		0.022	0.0091	mg/Kg	☼	04/05/17 09:15	04/05/17 12:28	1

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(64-126)	(72-126)	(60-140)	(71-125)
480-115585-2	SAMPLE-2	101	84	101	96
480-115585-3	SAMPLE-3	103	91	100	92
480-115585-4	SAMPLE-4	103	91	102	93
LCS 480-350348/1-A	Lab Control Sample	97	99	103	93
LCSD 480-350348/2-A	Lab Control Sample Dup	97	99	103	94
MB 480-350348/3-A	Method Blank	98	94	100	92

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(53-120)	(54-120)	(65-121)
480-115585-1	SAMPLE-1	98	72	63	65	66	87
480-115585-2	SAMPLE-2	98	72	60	65	63	83
480-115585-3	SAMPLE-3	94	75	65	72	69	85
480-115585-4	SAMPLE-4	100	78	69	76	72	87
480-115585-5	SAMPLE-5	135 X	86	75	79	77	82
480-115585-6	SAMPLE-6	97	81	72	73	72	76
480-115585-7	SAMPLE-7	87	70	64	68	67	77
480-115585-8	SAMPLE-8	100	85	69	77	70	95
480-115585-9	SAMPLE-9	105	90	82	82	84	91
480-115585-10	B-6	97	81	65	73	69	87
480-115585-11	B-7	98	83	72	79	73	94
LCS 480-350312/2-A	Lab Control Sample	104	78	67	76	68	86
MB 480-350312/1-A	Method Blank	98	81	68	73	72	85

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = p-Terphenyl-d14

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB2	TCX2
Lab Sample ID	Client Sample ID	(45-120)	(30-124)
480-115585-1	SAMPLE-1	97	59
480-115585-5	SAMPLE-5	121 X	60
480-115585-6	SAMPLE-6	98	55

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (45-120)	TCX2 (30-124)
480-115585-7	SAMPLE-7	87	56
480-115585-8	SAMPLE-8	108	82
480-115585-8 MS	SAMPLE-8	99	81
480-115585-8 MSD	SAMPLE-8	88	78
480-115585-9	SAMPLE-9	158 X	60
480-115585-10	B-6	114	61
480-115585-11	B-7	89	62
LCS 480-350519/2-A	Lab Control Sample	100	59
MB 480-350519/1-A	Method Blank	88	55

Surrogate Legend

DCB = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (65-174)	TCX1 (60-154)
480-115585-5	SAMPLE-5	104	102
480-115585-6	SAMPLE-6	119	107
480-115585-10	B-6	134	116
480-115585-11	B-7	123	112
LCS 480-350405/2-A	Lab Control Sample	144	123
MB 480-350405/1-A	Method Blank	131	109

Surrogate Legend

DCB = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPA1 (28-129)
480-115585-1	SAMPLE-1	90
480-115585-1 MS	SAMPLE-1	91
480-115585-1 MSD	SAMPLE-1	94
480-115585-5	SAMPLE-5	92
480-115585-6	SAMPLE-6	82
480-115585-7	SAMPLE-7	87
480-115585-8	SAMPLE-8	86
480-115585-9	SAMPLE-9	86
480-115585-10	B-6	88
480-115585-11	B-7	88
LCS 480-350340/2-A	Lab Control Sample	99
MB 480-350340/1-A	Method Blank	98

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-350348/3-A
Matrix: Solid
Analysis Batch: 350309

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.36	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.81	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	1.1	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,1,2-Trichloroethane	ND		5.0	0.65	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,1-Dichloroethane	ND		5.0	0.61	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,1-Dichloroethene	ND		5.0	0.61	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,2-Dibromoethane	ND		5.0	0.64	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,2-Dichlorobenzene	ND		5.0	0.39	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,2-Dichloroethane	ND		5.0	0.25	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,3-Dichlorobenzene	ND		5.0	0.26	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
1,4-Dichlorobenzene	ND		5.0	0.70	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
2-Butanone (MEK)	ND		25	1.8	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
2-Hexanone	ND		25	2.5	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.6	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Acetone	ND		25	4.2	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Benzene	ND		5.0	0.25	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Bromodichloromethane	ND		5.0	0.67	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Bromoform	ND		5.0	2.5	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Bromomethane	ND		5.0	0.45	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Carbon tetrachloride	ND		5.0	0.48	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Chlorobenzene	ND		5.0	0.66	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Chloroethane	ND		5.0	1.1	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Chloroform	ND		5.0	0.31	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Chloromethane	ND		5.0	0.30	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
cis-1,2-Dichloroethene	ND		5.0	0.64	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
cis-1,3-Dichloropropene	ND		5.0	0.72	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Cyclohexane	ND		5.0	0.70	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Dibromochloromethane	ND		5.0	0.64	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Dichlorodifluoromethane	ND		5.0	0.41	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Ethylbenzene	ND		5.0	0.35	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Isopropylbenzene	ND		5.0	0.75	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Methyl acetate	ND		25	3.0	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Methyl tert-butyl ether	ND		5.0	0.49	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Methylcyclohexane	ND		5.0	0.76	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Methylene Chloride	ND		5.0	2.3	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Styrene	ND		5.0	0.25	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Tetrachloroethene	ND		5.0	0.67	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Toluene	ND		5.0	0.38	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
trans-1,2-Dichloroethene	ND		5.0	0.52	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
trans-1,3-Dichloropropene	ND		5.0	2.2	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Trichloroethene	ND		5.0	1.1	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Trichlorofluoromethane	ND		5.0	0.47	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Vinyl chloride	ND		5.0	0.61	ug/Kg		04/05/17 09:57	04/05/17 12:52	1
Xylenes, Total	ND		10	0.84	ug/Kg		04/05/17 09:57	04/05/17 12:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*98*		*64 - 126*	*04/05/17 09:57*	*04/05/17 12:52*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*04/05/17 09:57*	*04/05/17 12:52*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*	*04/05/17 09:57*	*04/05/17 12:52*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*04/05/17 09:57*	*04/05/17 12:52*	*1*

Lab Sample ID: LCS 480-350348/1-A
Matrix: Solid
Analysis Batch: 350309

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	48.3		ug/Kg		97	77 - 121
1,1,2,2-Tetrachloroethane	50.0	44.8		ug/Kg		90	80 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.7		ug/Kg		97	60 - 140
1,1,2-Trichloroethane	50.0	46.0		ug/Kg		92	78 - 122
1,1-Dichloroethane	50.0	50.2		ug/Kg		100	73 - 126
1,1-Dichloroethene	50.0	50.2		ug/Kg		100	59 - 125
1,2,4-Trichlorobenzene	50.0	40.1		ug/Kg		80	64 - 120
1,2-Dibromo-3-Chloropropane	50.0	41.8		ug/Kg		84	63 - 124
1,2-Dibromoethane	50.0	45.7		ug/Kg		91	78 - 120
1,2-Dichlorobenzene	50.0	42.9		ug/Kg		86	75 - 120
1,2-Dichloroethane	50.0	49.0		ug/Kg		98	77 - 122
1,2-Dichloropropane	50.0	49.3		ug/Kg		99	75 - 124
1,3-Dichlorobenzene	50.0	43.8		ug/Kg		88	74 - 120
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	73 - 120
2-Butanone (MEK)	250	271		ug/Kg		108	70 - 134
2-Hexanone	250	237		ug/Kg		95	59 - 130
4-Methyl-2-pentanone (MIBK)	250	228		ug/Kg		91	65 - 133
Acetone	250	281		ug/Kg		112	61 - 137
Benzene	50.0	51.2		ug/Kg		102	79 - 127
Bromodichloromethane	50.0	50.8		ug/Kg		102	80 - 122
Bromoform	50.0	48.1		ug/Kg		96	68 - 126
Bromomethane	50.0	40.5		ug/Kg		81	37 - 149
Carbon disulfide	50.0	46.5		ug/Kg		93	64 - 131
Carbon tetrachloride	50.0	46.8		ug/Kg		94	75 - 135
Chlorobenzene	50.0	44.8		ug/Kg		90	76 - 124
Chloroethane	50.0	44.2		ug/Kg		88	69 - 135
Chloroform	50.0	50.7		ug/Kg		101	80 - 120
Chloromethane	50.0	44.4		ug/Kg		89	63 - 127
cis-1,2-Dichloroethene	50.0	50.1		ug/Kg		100	81 - 120
cis-1,3-Dichloropropene	50.0	49.7		ug/Kg		99	80 - 120
Cyclohexane	50.0	47.7		ug/Kg		95	65 - 120
Dibromochloromethane	50.0	47.1		ug/Kg		94	76 - 125
Dichlorodifluoromethane	50.0	40.2		ug/Kg		80	57 - 142
Ethylbenzene	50.0	45.4		ug/Kg		91	80 - 120
Isopropylbenzene	50.0	41.9		ug/Kg		84	72 - 120
Methyl acetate	250	261		ug/Kg		104	55 - 136
Methyl tert-butyl ether	50.0	48.8		ug/Kg		98	63 - 125
Methylcyclohexane	50.0	46.8		ug/Kg		94	60 - 140
Methylene Chloride	50.0	51.2		ug/Kg		102	61 - 127
Styrene	50.0	44.4		ug/Kg		89	80 - 120
Tetrachloroethene	50.0	43.1		ug/Kg		86	74 - 122
Toluene	50.0	44.4		ug/Kg		89	74 - 128
trans-1,2-Dichloroethene	50.0	50.9		ug/Kg		102	78 - 126

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-350348/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350309 — **Prep Batch: 350348**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	45.6		ug/Kg		91	73 - 123
Trichloroethene	50.0	48.9		ug/Kg		98	77 - 129
Trichlorofluoromethane	50.0	47.3		ug/Kg		95	65 - 146
Vinyl chloride	50.0	43.6		ug/Kg		87	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*64 - 126*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*93*		*71 - 125*

Lab Sample ID: LCSD 480-350348/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350309 — **Prep Batch: 350348**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	46.1		ug/Kg		92	77 - 121	5	20
1,1,2,2-Tetrachloroethane	50.0	45.3		ug/Kg		91	80 - 120	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	46.1		ug/Kg		92	60 - 140	5	20
1,1,2-Trichloroethane	50.0	46.7		ug/Kg		93	78 - 122	1	20
1,1-Dichloroethane	50.0	48.2		ug/Kg		96	73 - 126	4	20
1,1-Dichloroethene	50.0	46.6		ug/Kg		93	59 - 125	8	20
1,2,4-Trichlorobenzene	50.0	38.7		ug/Kg		77	64 - 120	4	20
1,2-Dibromo-3-Chloropropane	50.0	43.4		ug/Kg		87	63 - 124	4	20
1,2-Dibromoethane	50.0	45.7		ug/Kg		91	78 - 120	0	20
1,2-Dichlorobenzene	50.0	41.9		ug/Kg		84	75 - 120	2	20
1,2-Dichloroethane	50.0	48.1		ug/Kg		96	77 - 122	2	20
1,2-Dichloropropane	50.0	48.4		ug/Kg		97	75 - 124	2	20
1,3-Dichlorobenzene	50.0	42.8		ug/Kg		86	74 - 120	2	20
1,4-Dichlorobenzene	50.0	42.5		ug/Kg		85	73 - 120	3	20
2-Butanone (MEK)	250	271		ug/Kg		108	70 - 134	0	20
2-Hexanone	250	244		ug/Kg		98	59 - 130	3	20
4-Methyl-2-pentanone (MIBK)	250	231		ug/Kg		93	65 - 133	2	20
Acetone	250	283		ug/Kg		113	61 - 137	1	20
Benzene	50.0	49.1		ug/Kg		98	79 - 127	4	20
Bromodichloromethane	50.0	50.5		ug/Kg		101	80 - 122	1	20
Bromoform	50.0	48.1		ug/Kg		96	68 - 126	0	20
Bromomethane	50.0	40.5		ug/Kg		81	37 - 149	0	20
Carbon disulfide	50.0	44.8		ug/Kg		90	64 - 131	4	20
Carbon tetrachloride	50.0	44.5		ug/Kg		89	75 - 135	5	20
Chlorobenzene	50.0	43.8		ug/Kg		88	76 - 124	2	20
Chloroethane	50.0	42.4		ug/Kg		85	69 - 135	4	20
Chloroform	50.0	49.0		ug/Kg		98	80 - 120	4	20
Chloromethane	50.0	42.2		ug/Kg		84	63 - 127	5	20
cis-1,2-Dichloroethene	50.0	48.5		ug/Kg		97	81 - 120	3	20
cis-1,3-Dichloropropene	50.0	48.9		ug/Kg		98	80 - 120	2	20
Cyclohexane	50.0	45.0		ug/Kg		90	65 - 120	6	20

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 480-350348/2-A
Matrix: Solid
Analysis Batch: 350309

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 350348

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromochloromethane	50.0	48.4		ug/Kg		97	76 - 125	3	20
Dichlorodifluoromethane	50.0	38.9		ug/Kg		78	57 - 142	3	20
Ethylbenzene	50.0	44.1		ug/Kg		88	80 - 120	3	20
Isopropylbenzene	50.0	41.0		ug/Kg		82	72 - 120	2	20
Methyl acetate	250	261		ug/Kg		104	55 - 136	0	20
Methyl tert-butyl ether	50.0	49.0		ug/Kg		98	63 - 125	0	20
Methylcyclohexane	50.0	44.2		ug/Kg		88	60 - 140	6	20
Methylene Chloride	50.0	49.6		ug/Kg		99	61 - 127	3	20
Styrene	50.0	43.5		ug/Kg		87	80 - 120	2	20
Tetrachloroethene	50.0	41.8		ug/Kg		84	74 - 122	3	20
Toluene	50.0	43.0		ug/Kg		86	74 - 128	3	20
trans-1,2-Dichloroethene	50.0	48.0		ug/Kg		96	78 - 126	6	20
trans-1,3-Dichloropropene	50.0	45.6		ug/Kg		91	73 - 123	0	20
Trichloroethene	50.0	46.6		ug/Kg		93	77 - 129	5	20
Trichlorofluoromethane	50.0	45.3		ug/Kg		91	65 - 146	4	20
Vinyl chloride	50.0	41.5		ug/Kg		83	61 - 133	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*64 - 126*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*
Dibromofluoromethane (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*94*		*71 - 125*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-350312/1-A
Matrix: Solid
Analysis Batch: 350542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350312

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		170	45	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2,4,6-Trichlorophenol	ND		170	33	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2,4-Dichlorophenol	ND		170	18	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2,4-Dinitrophenol	ND		1600	760	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2,4-Dinitrotoluene	ND		170	34	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2,6-Dinitrotoluene	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2-Chloronaphthalene	ND		170	27	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2-Chlorophenol	ND		170	30	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2-Methylnaphthalene	ND		170	33	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2-Methylphenol	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2-Nitroaniline	ND		320	24	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
2-Nitrophenol	ND		170	47	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
3,3'-Dichlorobenzidine	ND		320	190	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
3-Nitroaniline	ND		320	46	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4,6-Dinitro-2-methylphenol	ND		320	170	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4-Bromophenyl phenyl ether	ND		170	23	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4-Chloro-3-methylphenol	ND		170	41	ug/Kg		04/05/17 08:29	04/06/17 12:38	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-350312/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 350542 **Prep Batch: 350312**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		170	41	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4-Chlorophenyl phenyl ether	ND		170	20	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4-Methylphenol	ND		320	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4-Nitroaniline	ND		320	87	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
4-Nitrophenol	ND		320	120	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Acenaphthene	ND		170	24	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Acenaphthylene	ND		170	21	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Acetophenone	ND		170	22	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Anthracene	ND		170	41	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Atrazine	ND		170	57	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Benzaldehyde	ND		170	130	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Benzo[a]anthracene	ND		170	17	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Benzo[a]pyrene	ND		170	24	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Benzo[b]fluoranthene	ND		170	26	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Benzo[k]fluoranthene	ND		170	21	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Biphenyl	ND		170	24	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
bis (2-chloroisopropyl) ether	ND		170	33	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Bis(2-chloroethoxy)methane	ND		170	35	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Bis(2-chloroethyl)ether	ND		170	21	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Bis(2-ethylhexyl) phthalate	ND		170	56	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Butyl benzyl phthalate	ND		170	27	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Caprolactam	ND		170	50	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Carbazole	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Chrysene	ND		170	37	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Dibenzofuran	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Diethyl phthalate	ND		170	21	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Dimethyl phthalate	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Di-n-butyl phthalate	ND		170	28	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Di-n-octyl phthalate	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Fluoranthene	ND		170	18	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Fluorene	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Hexachlorobenzene	ND		170	22	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Hexachlorobutadiene	ND		170	24	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Hexachlorocyclopentadiene	ND		170	22	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Hexachloroethane	ND		170	21	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Indeno[1,2,3-cd]pyrene	ND		170	20	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Isophorone	ND		170	35	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Naphthalene	ND		170	21	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Nitrobenzene	ND		170	18	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
N-Nitrosodi-n-propylamine	ND		170	28	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
N-Nitrosodiphenylamine	ND		170	130	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Pentachlorophenol	ND		320	170	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Phenanthrene	ND		170	24	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Phenol	ND		170	25	ug/Kg		04/05/17 08:29	04/06/17 12:38	1
Pyrene	ND		170	19	ug/Kg		04/05/17 08:29	04/06/17 12:38	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-350312/1-A
Matrix: Solid
Analysis Batch: 350542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350312

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*98*		*54 - 120*	*04/05/17 08:29*	*04/06/17 12:38*	*1*
2-Fluorobiphenyl	*81*		*60 - 120*	*04/05/17 08:29*	*04/06/17 12:38*	*1*
2-Fluorophenol	*68*		*52 - 120*	*04/05/17 08:29*	*04/06/17 12:38*	*1*
Nitrobenzene-d5	*73*		*53 - 120*	*04/05/17 08:29*	*04/06/17 12:38*	*1*
Phenol-d5	*72*		*54 - 120*	*04/05/17 08:29*	*04/06/17 12:38*	*1*
p-Terphenyl-d14	*85*		*65 - 121*	*04/05/17 08:29*	*04/06/17 12:38*	*1*

Lab Sample ID: LCS 480-350312/2-A
Matrix: Solid
Analysis Batch: 350542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	1620	1400		ug/Kg		86	59 - 126
2,4,6-Trichlorophenol	1620	1430		ug/Kg		88	59 - 123
2,4-Dichlorophenol	1620	1410		ug/Kg		87	61 - 120
2,4-Dimethylphenol	1620	1350		ug/Kg		83	59 - 120
2,4-Dinitrophenol	3250	2890		ug/Kg		89	41 - 146
2,4-Dinitrotoluene	1620	1420		ug/Kg		87	63 - 120
2,6-Dinitrotoluene	1620	1410		ug/Kg		87	66 - 120
2-Chloronaphthalene	1620	1310		ug/Kg		81	57 - 120
2-Chlorophenol	1620	1150		ug/Kg		71	53 - 120
2-Methylnaphthalene	1620	1270		ug/Kg		78	59 - 120
2-Methylphenol	1620	1120		ug/Kg		69	54 - 120
2-Nitroaniline	1620	1390		ug/Kg		86	61 - 120
2-Nitrophenol	1620	1460		ug/Kg		90	56 - 120
3,3'-Dichlorobenzidine	3250	2320		ug/Kg		71	54 - 120
3-Nitroaniline	1620	1130		ug/Kg		70	48 - 120
4,6-Dinitro-2-methylphenol	3250	3160		ug/Kg		97	49 - 122
4-Bromophenyl phenyl ether	1620	1550		ug/Kg		96	58 - 120
4-Chloro-3-methylphenol	1620	1380		ug/Kg		85	61 - 120
4-Chloroaniline	1620	1070		ug/Kg		66	38 - 120
4-Chlorophenyl phenyl ether	1620	1350		ug/Kg		83	63 - 124
4-Methylphenol	1620	1140		ug/Kg		70	55 - 120
4-Nitroaniline	1620	1190		ug/Kg		73	56 - 120
4-Nitrophenol	3250	3060		ug/Kg		94	43 - 147
Acenaphthene	1620	1280		ug/Kg		79	62 - 120
Acenaphthylene	1620	1300		ug/Kg		80	58 - 121
Acetophenone	1620	1120		ug/Kg		69	54 - 120
Anthracene	1620	1390		ug/Kg		85	62 - 120
Atrazine	3250	2630		ug/Kg		81	60 - 127
Benzaldehyde	3250	2130		ug/Kg		66	10 - 150
Benzo[a]anthracene	1620	1390		ug/Kg		86	65 - 120
Benzo[a]pyrene	1620	1410		ug/Kg		87	64 - 120
Benzo[b]fluoranthene	1620	1410		ug/Kg		87	64 - 120
Benzo[g,h,i]perylene	1620	1330		ug/Kg		82	45 - 145
Benzo[k]fluoranthene	1620	1440		ug/Kg		89	65 - 120
Biphenyl	1620	1300		ug/Kg		80	59 - 120
bis (2-chloroisopropyl) ether	1620	1150		ug/Kg		71	44 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-350312/2-A
Matrix: Solid
Analysis Batch: 350542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	1620	1180		ug/Kg		73	55 - 120
Bis(2-chloroethyl)ether	1620	1050		ug/Kg		65	45 - 120
Bis(2-ethylhexyl) phthalate	1620	1440		ug/Kg		89	61 - 133
Butyl benzyl phthalate	1620	1410		ug/Kg		87	61 - 129
Caprolactam	3250	2330		ug/Kg		72	47 - 120
Carbazole	1620	1350		ug/Kg		83	65 - 120
Chrysene	1620	1340		ug/Kg		83	64 - 120
Dibenz(a,h)anthracene	1620	1330		ug/Kg		82	54 - 132
Dibenzofuran	1620	1330		ug/Kg		82	63 - 120
Diethyl phthalate	1620	1360		ug/Kg		84	66 - 120
Dimethyl phthalate	1620	1370		ug/Kg		84	65 - 124
Di-n-butyl phthalate	1620	1390		ug/Kg		85	58 - 130
Di-n-octyl phthalate	1620	1360		ug/Kg		84	57 - 133
Fluoranthene	1620	1390		ug/Kg		86	62 - 120
Fluorene	1620	1310		ug/Kg		81	63 - 120
Hexachlorobenzene	1620	1570		ug/Kg		97	60 - 120
Hexachlorobutadiene	1620	1470		ug/Kg		91	45 - 120
Hexachlorocyclopentadiene	1620	1430		ug/Kg		88	47 - 120
Hexachloroethane	1620	1090		ug/Kg		67	41 - 120
Indeno[1,2,3-cd]pyrene	1620	1340		ug/Kg		83	56 - 134
Isophorone	1620	1310		ug/Kg		80	56 - 120
Naphthalene	1620	1250		ug/Kg		77	55 - 120
Nitrobenzene	1620	1310		ug/Kg		81	54 - 120
N-Nitrosodi-n-propylamine	1620	1080		ug/Kg		67	52 - 120
Pentachlorophenol	3250	2700		ug/Kg		83	51 - 120
Phenanthrene	1620	1380		ug/Kg		85	60 - 120
Phenol	1620	1110		ug/Kg		69	53 - 120
Pyrene	1620	1470		ug/Kg		90	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*104*		*54 - 120*
2-Fluorobiphenyl	*78*		*60 - 120*
2-Fluorophenol	*67*		*52 - 120*
Nitrobenzene-d5	*76*		*53 - 120*
Phenol-d5	*68*		*54 - 120*
p-Terphenyl-d14	*86*		*65 - 121*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 480-350519/1-A
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.32	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
4,4'-DDE	ND		1.7	0.35	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
4,4'-DDT	ND		1.7	0.39	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Aldrin	ND		1.7	0.41	ug/Kg		04/06/17 07:39	04/07/17 09:22	1

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 480-350519/1-A
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		1.7	0.30	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
alpha-Chlordane	ND		1.7	0.83	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
beta-BHC	ND		1.7	0.30	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
delta-BHC	ND		1.7	0.31	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Dieldrin	ND		1.7	0.40	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Endosulfan I	ND		1.7	0.32	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Endosulfan II	ND		1.7	0.30	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Endosulfan sulfate	ND		1.7	0.31	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Endrin	ND		1.7	0.33	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Endrin aldehyde	ND		1.7	0.43	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Endrin ketone	ND		1.7	0.41	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
gamma-BHC (Lindane)	ND		1.7	0.31	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
gamma-Chlordane	ND		1.7	0.53	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Heptachlor	ND		1.7	0.36	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Heptachlor epoxide	ND		1.7	0.43	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Methoxychlor	ND		1.7	0.34	ug/Kg		04/06/17 07:39	04/07/17 09:22	1
Toxaphene	ND		17	9.7	ug/Kg		04/06/17 07:39	04/07/17 09:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*45 - 120*	*04/06/17 07:39*	*04/07/17 09:22*	*1*
Tetrachloro-m-xylene	*55*		*30 - 124*	*04/06/17 07:39*	*04/07/17 09:22*	*1*

Lab Sample ID: LCS 480-350519/2-A
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	16.4	15.2		ug/Kg		92	56 - 120
4,4'-DDE	16.4	13.4		ug/Kg		82	44 - 120
4,4'-DDT	16.4	14.1		ug/Kg		86	38 - 120
Aldrin	16.4	9.35		ug/Kg		57	38 - 120
alpha-BHC	16.4	10.7		ug/Kg		65	39 - 120
alpha-Chlordane	16.4	13.2		ug/Kg		80	47 - 120
beta-BHC	16.4	11.8		ug/Kg		72	40 - 120
delta-BHC	16.4	12.8		ug/Kg		78	45 - 120
Dieldrin	16.4	14.2		ug/Kg		86	58 - 120
Endosulfan I	16.4	12.6		ug/Kg		77	49 - 120
Endosulfan II	16.4	13.2		ug/Kg		81	55 - 120
Endosulfan sulfate	16.4	14.1		ug/Kg		86	49 - 124
Endrin	16.4	13.4		ug/Kg		82	58 - 120
Endrin aldehyde	16.4	14.2		ug/Kg		87	37 - 121
Endrin ketone	16.4	14.4		ug/Kg		88	46 - 123
gamma-BHC (Lindane)	16.4	11.8		ug/Kg		72	50 - 120
gamma-Chlordane	16.4	13.1		ug/Kg		80	48 - 120
Heptachlor	16.4	12.6		ug/Kg		77	50 - 120
Heptachlor epoxide	16.4	13.3		ug/Kg		81	50 - 120
Methoxychlor	16.4	17.8		ug/Kg		109	58 - 133

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 480-350519/2-A
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350519

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*100*		*45 - 120*
Tetrachloro-m-xylene	*59*		*30 - 124*

Lab Sample ID: 480-115585-8 MS
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: SAMPLE-8
Prep Type: Total/NA
Prep Batch: 350519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		19.3	15.1		ug/Kg	☼	78	37 - 126
4,4'-DDE	ND		19.3	14.7		ug/Kg	☼	76	34 - 120
4,4'-DDT	ND		19.3	18.3		ug/Kg	☼	95	43 - 123
Aldrin	ND		19.3	12.3		ug/Kg	☼	64	37 - 125
alpha-BHC	ND		19.3	11.4		ug/Kg	☼	59	39 - 120
alpha-Chlordane	ND		19.3	13.5		ug/Kg	☼	70	35 - 120
beta-BHC	ND		19.3	12.0		ug/Kg	☼	62	36 - 120
delta-BHC	ND		19.3	13.8		ug/Kg	☼	71	34 - 120
Dieldrin	ND		19.3	15.5		ug/Kg	☼	80	45 - 120
Endosulfan I	ND		19.3	12.9		ug/Kg	☼	67	39 - 120
Endosulfan II	ND		19.3	14.2		ug/Kg	☼	74	34 - 126
Endosulfan sulfate	ND		19.3	14.0		ug/Kg	☼	72	27 - 130
Endrin	ND		19.3	14.3		ug/Kg	☼	74	47 - 121
Endrin aldehyde	ND		19.3	13.3		ug/Kg	☼	69	33 - 123
Endrin ketone	ND		19.3	15.3		ug/Kg	☼	79	43 - 126
gamma-BHC (Lindane)	ND		19.3	12.6		ug/Kg	☼	65	50 - 120
gamma-Chlordane	ND		19.3	13.1		ug/Kg	☼	68	31 - 120
Heptachlor	ND		19.3	13.3		ug/Kg	☼	69	42 - 120
Heptachlor epoxide	ND		19.3	14.3		ug/Kg	☼	74	40 - 120
Methoxychlor	ND		19.3	23.0		ug/Kg	☼	119	44 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*99*		*45 - 120*
Tetrachloro-m-xylene	*81*		*30 - 124*

Lab Sample ID: 480-115585-8 MSD
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: SAMPLE-8
Prep Type: Total/NA
Prep Batch: 350519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		19.7	14.8		ug/Kg	☼	75	37 - 126	2	21
4,4'-DDE	ND		19.7	14.2		ug/Kg	☼	72	34 - 120	3	18
4,4'-DDT	ND		19.7	18.1		ug/Kg	☼	92	43 - 123	1	25
Aldrin	ND		19.7	11.8		ug/Kg	☼	60	37 - 125	4	12
alpha-BHC	ND		19.7	10.8		ug/Kg	☼	55	39 - 120	5	15
alpha-Chlordane	ND		19.7	13.2		ug/Kg	☼	67	35 - 120	2	23
beta-BHC	ND		19.7	11.5		ug/Kg	☼	58	36 - 120	4	19
delta-BHC	ND		19.7	13.2		ug/Kg	☼	67	34 - 120	4	14
Dieldrin	ND		19.7	15.1		ug/Kg	☼	76	45 - 120	3	12
Endosulfan I	ND		19.7	12.7		ug/Kg	☼	65	39 - 120	1	18

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 480-115585-8 MSD
Matrix: Solid
Analysis Batch: 350720

Client Sample ID: SAMPLE-8
Prep Type: Total/NA
Prep Batch: 350519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endosulfan II	ND		19.7	14.1		ug/Kg	☼	72	34 - 126	1	26
Endosulfan sulfate	ND		19.7	13.9		ug/Kg	☼	71	27 - 130	1	35
Endrin	ND		19.7	13.8		ug/Kg	☼	70	47 - 121	4	20
Endrin aldehyde	ND		19.7	13.1		ug/Kg	☼	67	33 - 123	1	47
Endrin ketone	ND		19.7	14.8		ug/Kg	☼	75	43 - 126	4	37
gamma-BHC (Lindane)	ND		19.7	12.0		ug/Kg	☼	61	50 - 120	5	12
gamma-Chlordane	ND		19.7	12.8		ug/Kg	☼	65	31 - 120	2	15
Heptachlor	ND		19.7	12.6		ug/Kg	☼	64	42 - 120	5	22
Heptachlor epoxide	ND		19.7	13.6		ug/Kg	☼	69	40 - 120	5	15
Methoxychlor	ND		19.7	21.8		ug/Kg	☼	110	44 - 150	5	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*88*		*45 - 120*
Tetrachloro-m-xylene	*78*		*30 - 124*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-350405/1-A
Matrix: Solid
Analysis Batch: 350446

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.047	mg/Kg		04/05/17 11:54	04/05/17 22:52	1
PCB-1221	ND		0.24	0.047	mg/Kg		04/05/17 11:54	04/05/17 22:52	1
PCB-1232	ND		0.24	0.047	mg/Kg		04/05/17 11:54	04/05/17 22:52	1
PCB-1242	ND		0.24	0.047	mg/Kg		04/05/17 11:54	04/05/17 22:52	1
PCB-1248	ND		0.24	0.047	mg/Kg		04/05/17 11:54	04/05/17 22:52	1
PCB-1254	ND		0.24	0.11	mg/Kg		04/05/17 11:54	04/05/17 22:52	1
PCB-1260	ND		0.24	0.11	mg/Kg		04/05/17 11:54	04/05/17 22:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*131*		*65 - 174*	*04/05/17 11:54*	*04/05/17 22:52*	*1*
Tetrachloro-m-xylene	*109*		*60 - 154*	*04/05/17 11:54*	*04/05/17 22:52*	*1*

Lab Sample ID: LCS 480-350405/2-A
Matrix: Solid
Analysis Batch: 350446

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.36	2.73		mg/Kg		116	51 - 185
PCB-1260	2.36	3.13		mg/Kg		133	61 - 184

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*144*		*65 - 174*
Tetrachloro-m-xylene	*123*		*60 - 154*

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 480-350340/1-A
Matrix: Solid
Analysis Batch: 350883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		16	10	ug/Kg		04/05/17 09:29	04/07/17 16:47	1
Silvex (2,4,5-TP)	ND		16	5.8	ug/Kg		04/05/17 09:29	04/07/17 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*98*		*28 - 129*	*04/05/17 09:29*	*04/07/17 16:47*	*1*

Lab Sample ID: LCS 480-350340/2-A
Matrix: Solid
Analysis Batch: 350883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	65.7	64.7		ug/Kg		98	40 - 120
Silvex (2,4,5-TP)	65.7	69.6		ug/Kg		106	39 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*99*		*28 - 129*

Lab Sample ID: 480-115585-1 MS
Matrix: Solid
Analysis Batch: 350883

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350340

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	ND		77.4	76.3		ug/Kg	☼	99	32 - 115
Silvex (2,4,5-TP)	ND		77.4	72.1		ug/Kg	☼	93	22 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*91*		*28 - 129*

Lab Sample ID: 480-115585-1 MSD
Matrix: Solid
Analysis Batch: 350883

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D	ND		76.1	74.2		ug/Kg	☼	98	32 - 115	3	50
Silvex (2,4,5-TP)	ND		76.1	68.3		ug/Kg	☼	90	22 - 140	5	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*94*		*28 - 129*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-350423/1-A
Matrix: Solid
Analysis Batch: 351308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350423

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10.9	4.8	mg/Kg		04/05/17 16:15	04/10/17 16:38	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-350423/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 351308 **Prep Batch: 350423**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.4	0.44	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Arsenic	ND		2.2	0.44	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Barium	ND		0.55	0.12	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Beryllium	ND		0.22	0.031	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Cadmium	ND		0.22	0.033	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Calcium	ND		54.5	3.6	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Chromium	0.437	J	0.55	0.22	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Cobalt	ND		0.55	0.055	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Copper	ND		1.1	0.23	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Iron	ND		10.9	3.8	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Lead	ND		1.1	0.26	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Magnesium	ND		21.8	1.0	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Manganese	0.0785	J	0.22	0.035	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Nickel	ND		5.5	0.25	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Selenium	ND		4.4	0.44	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Silver	ND		0.65	0.22	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Sodium	24.43	J	153	14.2	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Thallium	ND		6.5	0.33	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Vanadium	ND		0.55	0.12	mg/Kg		04/05/17 16:15	04/10/17 16:38	1
Zinc	ND		2.2	0.70	mg/Kg		04/05/17 16:15	04/10/17 16:38	1

Lab Sample ID: MB 480-350423/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 351595 **Prep Batch: 350423**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		32.7	21.8	mg/Kg		04/05/17 16:15	04/11/17 13:11	1

Lab Sample ID: LCSSRM 480-350423/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 351308 **Prep Batch: 350423**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	8080	9995		mg/Kg		123.7	39.6 - 160.9
Antimony	123	78.01		mg/Kg		63.4	19.9 - 252.0
Arsenic	145	131.1		mg/Kg		90.4	70.3 - 136.6
Barium	209	188.6		mg/Kg		90.2	73.7 - 126.8
Beryllium	97.3	88.33		mg/Kg		90.8	74.5 - 125.4
Cadmium	87.6	76.49		mg/Kg		87.3	73.3 - 126.7
Calcium	5690	5051		mg/Kg		88.8	73.5 - 126.5
Chromium	143	130.9		mg/Kg		91.6	69.9 - 129.4
Cobalt	154	160.7		mg/Kg		104.4	74.0 - 125.3

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 480-350423/2-A
Matrix: Solid
Analysis Batch: 351308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350423

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	173	160.5		mg/Kg		92.8	75.1 - 124.3
Iron	15000	17010		mg/Kg		113.4	37.1 - 163.3
Lead	146	151.6		mg/Kg		103.8	73.3 - 126.7
Magnesium	2640	2612		mg/Kg		98.9	64.4 - 136.0
Manganese	309	288.8		mg/Kg		93.4	74.8 - 125.2
Nickel	129	135.7		mg/Kg		105.2	73.0 - 127.1
Potassium	2400	2693	^	mg/Kg		112.2	60.4 - 140.0
Selenium	178	158.2		mg/Kg		88.9	68.0 - 131.5
Silver	31.3	27.17		mg/Kg		86.8	65.2 - 134.5
Sodium	869	790.8		mg/Kg		91.0	58.6 - 141.5
Thallium	141	152.7		mg/Kg		108.3	68.4 - 121.3
Vanadium	115	114.0		mg/Kg		99.1	67.5 - 122.6
Zinc	194	176.0		mg/Kg		90.7	69.6 - 118.0

Lab Sample ID: 480-115585-1 MS
Matrix: Solid
Analysis Batch: 351308

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350423

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	13000		2550	24660	4	mg/Kg	☼	458	75 - 125
Antimony	ND	F1	50.9	35.74	F1	mg/Kg	☼	70	75 - 125
Arsenic	7.6		50.9	57.66		mg/Kg	☼	98	75 - 125
Barium	39.4	F1	50.9	140.8	F1	mg/Kg	☼	199	75 - 125
Beryllium	0.54		50.9	53.38		mg/Kg	☼	104	75 - 125
Cadmium	0.11	J	50.9	52.02		mg/Kg	☼	102	75 - 125
Calcium	918		2550	3410		mg/Kg	☼	98	75 - 125
Chromium	16.7	B	50.9	77.85		mg/Kg	☼	120	75 - 125
Cobalt	8.5		50.9	66.33		mg/Kg	☼	114	75 - 125
Copper	19.4		50.9	75.36		mg/Kg	☼	110	75 - 125
Iron	19600		2550	23110	4	mg/Kg	☼	137	75 - 125
Lead	16.1		50.9	74.11		mg/Kg	☼	114	75 - 125
Magnesium	2680		2550	5798		mg/Kg	☼	123	75 - 125
Manganese	469	B	50.9	631.9	4	mg/Kg	☼	321	75 - 125
Nickel	20.7		50.9	79.10		mg/Kg	☼	115	75 - 125
Potassium	1300	F1 ^	2550	7152	^ F1	mg/Kg	☼	230	75 - 125
Selenium	ND		50.9	51.06		mg/Kg	☼	100	75 - 125
Silver	ND		12.7	12.56		mg/Kg	☼	99	75 - 125
Sodium	56.5	J B	2550	2776		mg/Kg	☼	107	75 - 125
Thallium	ND		50.9	55.94		mg/Kg	☼	110	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-115585-1 MS
Matrix: Solid
Analysis Batch: 351308

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350423

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	18.9	F1	50.9	87.09	F1	mg/Kg	☼	134	75 - 125
Zinc	50.9		50.9	107.0		mg/Kg	☼	110	75 - 125

Lab Sample ID: 480-115585-1 MSD
Matrix: Solid
Analysis Batch: 351308

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350423

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	13000		2470	23990	4	mg/Kg	☼	445	75 - 125	3	20
Antimony	ND	F1	49.3	33.52	F1	mg/Kg	☼	68	75 - 125	6	20
Arsenic	7.6		49.3	54.42		mg/Kg	☼	95	75 - 125	6	20
Barium	39.4	F1	49.3	135.9	F1	mg/Kg	☼	195	75 - 125	4	20
Beryllium	0.54		49.3	49.86		mg/Kg	☼	100	75 - 125	7	20
Cadmium	0.11	J	49.3	48.67		mg/Kg	☼	98	75 - 125	7	20
Calcium	918		2470	3269		mg/Kg	☼	95	75 - 125	4	20
Chromium	16.7	B	49.3	73.27		mg/Kg	☼	115	75 - 125	6	20
Cobalt	8.5		49.3	63.95		mg/Kg	☼	112	75 - 125	4	20
Copper	19.4		49.3	73.38		mg/Kg	☼	109	75 - 125	3	20
Iron	19600		2470	23210	4	mg/Kg	☼	146	75 - 125	0	20
Lead	16.1		49.3	68.58		mg/Kg	☼	106	75 - 125	8	20
Magnesium	2680		2470	5660		mg/Kg	☼	121	75 - 125	2	20
Manganese	469	B	49.3	753.8	4	mg/Kg	☼	578	75 - 125	18	20
Nickel	20.7		49.3	76.66		mg/Kg	☼	113	75 - 125	3	20
Potassium	1300	F1 ^	2470	6648	^ F1	mg/Kg	☼	217	75 - 125	7	20
Selenium	ND		49.3	48.13		mg/Kg	☼	98	75 - 125	6	20
Silver	ND		12.3	12.18		mg/Kg	☼	99	75 - 125	3	20
Sodium	56.5	J B	2470	2602		mg/Kg	☼	103	75 - 125	6	20
Thallium	ND		49.3	52.37		mg/Kg	☼	106	75 - 125	7	20
Vanadium	18.9	F1	49.3	82.08	F1	mg/Kg	☼	128	75 - 125	6	20
Zinc	50.9		49.3	101.8		mg/Kg	☼	103	75 - 125	5	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 480-350327/1-A
Matrix: Solid
Analysis Batch: 350417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	0.0076	mg/Kg		04/05/17 09:15	04/05/17 12:01	1

Lab Sample ID: LCDSRM 480-350327/3-A ^10
Matrix: Solid
Analysis Batch: 350417

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 350327

Analyte	Spike Added	LCDSRM Result	LCDSRM Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	12.6	12.09		mg/Kg		96.0	44.4 - 128.6	3	20

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCSSRM 480-350327/2-A ^10
Matrix: Solid
Analysis Batch: 350417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350327

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			12.6	11.74		mg/Kg		93.2	44.4 - 128.6		

Lab Sample ID: 480-115585-1 MS
Matrix: Solid
Analysis Batch: 350417

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350327

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.036		0.366	0.376		mg/Kg	☼	93	80 - 120		

Lab Sample ID: 480-115585-1 MSD
Matrix: Solid
Analysis Batch: 350417

Client Sample ID: SAMPLE-1
Prep Type: Total/NA
Prep Batch: 350327

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.036		0.387	0.368		mg/Kg	☼	86	80 - 120	2	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

QC Association Summary

GC/MS VOA

Analysis Batch: 350309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-2	SAMPLE-2	Total/NA	Solid	8260C	350348
480-115585-3	SAMPLE-3	Total/NA	Solid	8260C	350348
480-115585-4	SAMPLE-4	Total/NA	Solid	8260C	350348
MB 480-350348/3-A	Method Blank	Total/NA	Solid	8260C	350348
LCS 480-350348/1-A	Lab Control Sample	Total/NA	Solid	8260C	350348
LCSD 480-350348/2-A	Lab Control Sample Dup	Total/NA	Solid	8260C	350348

Prep Batch: 350348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-2	SAMPLE-2	Total/NA	Solid	5035A	
480-115585-3	SAMPLE-3	Total/NA	Solid	5035A	
480-115585-4	SAMPLE-4	Total/NA	Solid	5035A	
MB 480-350348/3-A	Method Blank	Total/NA	Solid	5035A	
LCS 480-350348/1-A	Lab Control Sample	Total/NA	Solid	5035A	
LCSD 480-350348/2-A	Lab Control Sample Dup	Total/NA	Solid	5035A	

GC/MS Semi VOA

Prep Batch: 350312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	3550C	
480-115585-2	SAMPLE-2	Total/NA	Solid	3550C	
480-115585-3	SAMPLE-3	Total/NA	Solid	3550C	
480-115585-4	SAMPLE-4	Total/NA	Solid	3550C	
480-115585-5	SAMPLE-5	Total/NA	Solid	3550C	
480-115585-6	SAMPLE-6	Total/NA	Solid	3550C	
480-115585-7	SAMPLE-7	Total/NA	Solid	3550C	
480-115585-8	SAMPLE-8	Total/NA	Solid	3550C	
480-115585-9	SAMPLE-9	Total/NA	Solid	3550C	
480-115585-10	B-6	Total/NA	Solid	3550C	
480-115585-11	B-7	Total/NA	Solid	3550C	
MB 480-350312/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-350312/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 350542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	8270D	350312
480-115585-2	SAMPLE-2	Total/NA	Solid	8270D	350312
480-115585-3	SAMPLE-3	Total/NA	Solid	8270D	350312
480-115585-4	SAMPLE-4	Total/NA	Solid	8270D	350312
480-115585-5	SAMPLE-5	Total/NA	Solid	8270D	350312
480-115585-6	SAMPLE-6	Total/NA	Solid	8270D	350312
480-115585-7	SAMPLE-7	Total/NA	Solid	8270D	350312
480-115585-8	SAMPLE-8	Total/NA	Solid	8270D	350312
480-115585-9	SAMPLE-9	Total/NA	Solid	8270D	350312
480-115585-10	B-6	Total/NA	Solid	8270D	350312
480-115585-11	B-7	Total/NA	Solid	8270D	350312
MB 480-350312/1-A	Method Blank	Total/NA	Solid	8270D	350312
LCS 480-350312/2-A	Lab Control Sample	Total/NA	Solid	8270D	350312

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

GC Semi VOA

Prep Batch: 350340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	8151A	
480-115585-5	SAMPLE-5	Total/NA	Solid	8151A	
480-115585-6	SAMPLE-6	Total/NA	Solid	8151A	
480-115585-7	SAMPLE-7	Total/NA	Solid	8151A	
480-115585-8	SAMPLE-8	Total/NA	Solid	8151A	
480-115585-9	SAMPLE-9	Total/NA	Solid	8151A	
480-115585-10	B-6	Total/NA	Solid	8151A	
480-115585-11	B-7	Total/NA	Solid	8151A	
MB 480-350340/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 480-350340/2-A	Lab Control Sample	Total/NA	Solid	8151A	
480-115585-1 MS	SAMPLE-1	Total/NA	Solid	8151A	
480-115585-1 MSD	SAMPLE-1	Total/NA	Solid	8151A	

Prep Batch: 350405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-5	SAMPLE-5	Total/NA	Solid	3550C	
480-115585-6	SAMPLE-6	Total/NA	Solid	3550C	
480-115585-10	B-6	Total/NA	Solid	3550C	
480-115585-11	B-7	Total/NA	Solid	3550C	
MB 480-350405/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-350405/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 350446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-5	SAMPLE-5	Total/NA	Solid	8082A	350405
480-115585-6	SAMPLE-6	Total/NA	Solid	8082A	350405
480-115585-10	B-6	Total/NA	Solid	8082A	350405
480-115585-11	B-7	Total/NA	Solid	8082A	350405
MB 480-350405/1-A	Method Blank	Total/NA	Solid	8082A	350405
LCS 480-350405/2-A	Lab Control Sample	Total/NA	Solid	8082A	350405

Prep Batch: 350519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	3550C	
480-115585-5	SAMPLE-5	Total/NA	Solid	3550C	
480-115585-6	SAMPLE-6	Total/NA	Solid	3550C	
480-115585-7	SAMPLE-7	Total/NA	Solid	3550C	
480-115585-8	SAMPLE-8	Total/NA	Solid	3550C	
480-115585-9	SAMPLE-9	Total/NA	Solid	3550C	
480-115585-10	B-6	Total/NA	Solid	3550C	
480-115585-11	B-7	Total/NA	Solid	3550C	
MB 480-350519/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-350519/2-A	Lab Control Sample	Total/NA	Solid	3550C	
480-115585-8 MS	SAMPLE-8	Total/NA	Solid	3550C	
480-115585-8 MSD	SAMPLE-8	Total/NA	Solid	3550C	

Analysis Batch: 350720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	8081B	350519
480-115585-5	SAMPLE-5	Total/NA	Solid	8081B	350519
480-115585-6	SAMPLE-6	Total/NA	Solid	8081B	350519

GC Semi VOA (Continued)

Analysis Batch: 350720 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-7	SAMPLE-7	Total/NA	Solid	8081B	350519
480-115585-8	SAMPLE-8	Total/NA	Solid	8081B	350519
480-115585-9	SAMPLE-9	Total/NA	Solid	8081B	350519
480-115585-10	B-6	Total/NA	Solid	8081B	350519
480-115585-11	B-7	Total/NA	Solid	8081B	350519
MB 480-350519/1-A	Method Blank	Total/NA	Solid	8081B	350519
LCS 480-350519/2-A	Lab Control Sample	Total/NA	Solid	8081B	350519
480-115585-8 MS	SAMPLE-8	Total/NA	Solid	8081B	350519
480-115585-8 MSD	SAMPLE-8	Total/NA	Solid	8081B	350519

Analysis Batch: 350883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	8151A	350340
480-115585-5	SAMPLE-5	Total/NA	Solid	8151A	350340
480-115585-6	SAMPLE-6	Total/NA	Solid	8151A	350340
480-115585-7	SAMPLE-7	Total/NA	Solid	8151A	350340
480-115585-8	SAMPLE-8	Total/NA	Solid	8151A	350340
480-115585-9	SAMPLE-9	Total/NA	Solid	8151A	350340
480-115585-10	B-6	Total/NA	Solid	8151A	350340
480-115585-11	B-7	Total/NA	Solid	8151A	350340
MB 480-350340/1-A	Method Blank	Total/NA	Solid	8151A	350340
LCS 480-350340/2-A	Lab Control Sample	Total/NA	Solid	8151A	350340
480-115585-1 MS	SAMPLE-1	Total/NA	Solid	8151A	350340
480-115585-1 MSD	SAMPLE-1	Total/NA	Solid	8151A	350340

Metals

Prep Batch: 350327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	7471B	
480-115585-2	SAMPLE-2	Total/NA	Solid	7471B	
480-115585-3	SAMPLE-3	Total/NA	Solid	7471B	
480-115585-4	SAMPLE-4	Total/NA	Solid	7471B	
480-115585-5	SAMPLE-5	Total/NA	Solid	7471B	
480-115585-6	SAMPLE-6	Total/NA	Solid	7471B	
480-115585-7	SAMPLE-7	Total/NA	Solid	7471B	
480-115585-8	SAMPLE-8	Total/NA	Solid	7471B	
480-115585-9	SAMPLE-9	Total/NA	Solid	7471B	
480-115585-10	B-6	Total/NA	Solid	7471B	
480-115585-11	B-7	Total/NA	Solid	7471B	
MB 480-350327/1-A	Method Blank	Total/NA	Solid	7471B	
LCDSRM 480-350327/3-A ^1	Lab Control Sample Dup	Total/NA	Solid	7471B	
LCSSRM 480-350327/2-A ^1	Lab Control Sample	Total/NA	Solid	7471B	
480-115585-1 MS	SAMPLE-1	Total/NA	Solid	7471B	
480-115585-1 MSD	SAMPLE-1	Total/NA	Solid	7471B	

Analysis Batch: 350417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	7471B	350327
480-115585-2	SAMPLE-2	Total/NA	Solid	7471B	350327

Metals (Continued)

Analysis Batch: 350417 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-3	SAMPLE-3	Total/NA	Solid	7471B	350327
480-115585-4	SAMPLE-4	Total/NA	Solid	7471B	350327
480-115585-5	SAMPLE-5	Total/NA	Solid	7471B	350327
480-115585-6	SAMPLE-6	Total/NA	Solid	7471B	350327
480-115585-7	SAMPLE-7	Total/NA	Solid	7471B	350327
480-115585-8	SAMPLE-8	Total/NA	Solid	7471B	350327
480-115585-9	SAMPLE-9	Total/NA	Solid	7471B	350327
480-115585-10	B-6	Total/NA	Solid	7471B	350327
480-115585-11	B-7	Total/NA	Solid	7471B	350327
MB 480-350327/1-A	Method Blank	Total/NA	Solid	7471B	350327
LCDSRM 480-350327/3-A ^1	Lab Control Sample Dup	Total/NA	Solid	7471B	350327
LCSSRM 480-350327/2-A ^1	Lab Control Sample	Total/NA	Solid	7471B	350327
480-115585-1 MS	SAMPLE-1	Total/NA	Solid	7471B	350327
480-115585-1 MSD	SAMPLE-1	Total/NA	Solid	7471B	350327

Prep Batch: 350423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	3050B	
480-115585-2	SAMPLE-2	Total/NA	Solid	3050B	
480-115585-3	SAMPLE-3	Total/NA	Solid	3050B	
480-115585-4	SAMPLE-4	Total/NA	Solid	3050B	
480-115585-5	SAMPLE-5	Total/NA	Solid	3050B	
480-115585-6	SAMPLE-6	Total/NA	Solid	3050B	
480-115585-7	SAMPLE-7	Total/NA	Solid	3050B	
480-115585-8	SAMPLE-8	Total/NA	Solid	3050B	
480-115585-9	SAMPLE-9	Total/NA	Solid	3050B	
480-115585-10	B-6	Total/NA	Solid	3050B	
480-115585-11	B-7	Total/NA	Solid	3050B	
MB 480-350423/1-A	Method Blank	Total/NA	Solid	3050B	
LCSSRM 480-350423/2-A	Lab Control Sample	Total/NA	Solid	3050B	
480-115585-1 MS	SAMPLE-1	Total/NA	Solid	3050B	
480-115585-1 MSD	SAMPLE-1	Total/NA	Solid	3050B	

Analysis Batch: 351308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	6010C	350423
480-115585-2	SAMPLE-2	Total/NA	Solid	6010C	350423
480-115585-3	SAMPLE-3	Total/NA	Solid	6010C	350423
480-115585-4	SAMPLE-4	Total/NA	Solid	6010C	350423
480-115585-5	SAMPLE-5	Total/NA	Solid	6010C	350423
480-115585-6	SAMPLE-6	Total/NA	Solid	6010C	350423
480-115585-7	SAMPLE-7	Total/NA	Solid	6010C	350423
480-115585-8	SAMPLE-8	Total/NA	Solid	6010C	350423
480-115585-9	SAMPLE-9	Total/NA	Solid	6010C	350423
480-115585-10	B-6	Total/NA	Solid	6010C	350423
480-115585-11	B-7	Total/NA	Solid	6010C	350423
MB 480-350423/1-A	Method Blank	Total/NA	Solid	6010C	350423
LCSSRM 480-350423/2-A	Lab Control Sample	Total/NA	Solid	6010C	350423
480-115585-1 MS	SAMPLE-1	Total/NA	Solid	6010C	350423
480-115585-1 MSD	SAMPLE-1	Total/NA	Solid	6010C	350423

Metals (Continued)

Analysis Batch: 351595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-8	SAMPLE-8	Total/NA	Solid	6010C	350423
MB 480-350423/1-A	Method Blank	Total/NA	Solid	6010C	350423

General Chemistry

Analysis Batch: 350286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-115585-1	SAMPLE-1	Total/NA	Solid	Moisture	
480-115585-2	SAMPLE-2	Total/NA	Solid	Moisture	
480-115585-3	SAMPLE-3	Total/NA	Solid	Moisture	
480-115585-4	SAMPLE-4	Total/NA	Solid	Moisture	
480-115585-5	SAMPLE-5	Total/NA	Solid	Moisture	
480-115585-6	SAMPLE-6	Total/NA	Solid	Moisture	
480-115585-7	SAMPLE-7	Total/NA	Solid	Moisture	
480-115585-8	SAMPLE-8	Total/NA	Solid	Moisture	
480-115585-9	SAMPLE-9	Total/NA	Solid	Moisture	
480-115585-10	B-6	Total/NA	Solid	Moisture	
480-115585-11	B-7	Total/NA	Solid	Moisture	

Client Sample ID: SAMPLE-1
Lab Sample ID: 480-115585-1

Date Collected: 04/04/17 09:00
Matrix: Solid
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-1
Lab Sample ID: 480-115585-1

Date Collected: 04/04/17 09:00
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 85.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 15:43	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 10:41	JLS	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 18:47	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 16:45	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:06	JRK	TAL BUF

Client Sample ID: SAMPLE-2
Lab Sample ID: 480-115585-2

Date Collected: 04/04/17 09:25
Matrix: Solid
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-2
Lab Sample ID: 480-115585-2

Date Collected: 04/04/17 09:25
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A			350348	04/05/17 05:00	JAS	TAL BUF
Total/NA	Analysis	8260C		1	350309	04/05/17 16:14	JAS	TAL BUF
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 16:10	LMW	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:12	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:12	JRK	TAL BUF

Client Sample ID: SAMPLE-3
Lab Sample ID: 480-115585-3
Date Collected: 04/04/17 09:35
Matrix: Solid
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-3
Lab Sample ID: 480-115585-3
Date Collected: 04/04/17 09:35
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A			350348	04/05/17 05:00	JAS	TAL BUF
Total/NA	Analysis	8260C		1	350309	04/05/17 17:05	JAS	TAL BUF
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 16:36	LMW	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:15	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:14	JRK	TAL BUF

Client Sample ID: SAMPLE-4
Lab Sample ID: 480-115585-4
Date Collected: 04/04/17 09:45
Matrix: Solid
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-4
Lab Sample ID: 480-115585-4
Date Collected: 04/04/17 09:45
Matrix: Solid
Date Received: 04/05/17 01:00
Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A			350348	04/05/17 05:00	JAS	TAL BUF
Total/NA	Analysis	8260C		1	350309	04/05/17 16:39	JAS	TAL BUF
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 17:03	LMW	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:19	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:15	JRK	TAL BUF

Client Sample ID: SAMPLE-5
Lab Sample ID: 480-115585-5
Date Collected: 04/04/17 11:00
Matrix: Solid
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client: Barton & Loguidice, D.P.C. TestAmerica Job ID: 480-115585-1
Project/Site: Ashokan

Client Sample ID: SAMPLE-5 Lab Sample ID: 480-115585-5
Date Collected: 04/04/17 11:00 Matrix: Solid
Date Received: 04/05/17 01:00 Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		10	350542	04/06/17 17:29	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		10	350720	04/07/17 11:01	JLS	TAL BUF
Total/NA	Prep	3550C			350405	04/05/17 11:54	CAM	TAL BUF
Total/NA	Analysis	8082A		1	350446	04/06/17 00:59	JMO	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 19:17	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:22	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:19	JRK	TAL BUF

Client Sample ID: SAMPLE-6 Lab Sample ID: 480-115585-6
Date Collected: 04/04/17 11:15 Matrix: Solid
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-6 Lab Sample ID: 480-115585-6
Date Collected: 04/04/17 11:15 Matrix: Solid
Date Received: 04/05/17 01:00 Percent Solids: 82.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		5	350542	04/06/17 17:56	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 11:21	JLS	TAL BUF
Total/NA	Prep	3550C			350405	04/05/17 11:54	CAM	TAL BUF
Total/NA	Analysis	8082A		1	350446	04/06/17 01:15	JMO	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 19:47	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:25	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:21	JRK	TAL BUF

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Client Sample ID: SAMPLE-7
Date Collected: 04/04/17 12:45
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-7
Date Collected: 04/04/17 12:45
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-7
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 18:22	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 11:40	JLS	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 20:17	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:29	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:22	JRK	TAL BUF

Client Sample ID: SAMPLE-8
Date Collected: 04/04/17 13:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-8
Date Collected: 04/04/17 13:00
Date Received: 04/05/17 01:00

Lab Sample ID: 480-115585-8
Matrix: Solid
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 18:49	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 12:00	JLS	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 20:47	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:32	TRB	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351595	04/11/17 13:28	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:24	JRK	TAL BUF

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: SAMPLE-9 Lab Sample ID: 480-115585-9
Date Collected: 04/04/17 13:25 **Matrix: Solid**
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: SAMPLE-9 Lab Sample ID: 480-115585-9
Date Collected: 04/04/17 13:25 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 81.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		5	350542	04/06/17 19:15	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 12:20	JLS	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 21:17	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:46	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:25	JRK	TAL BUF

Client Sample ID: B-6 Lab Sample ID: 480-115585-10
Date Collected: 04/04/17 16:00 **Matrix: Solid**
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: B-6 Lab Sample ID: 480-115585-10
Date Collected: 04/04/17 16:00 **Matrix: Solid**
Date Received: 04/05/17 01:00 **Percent Solids: 85.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 19:41	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 12:39	JLS	TAL BUF
Total/NA	Prep	3550C			350405	04/05/17 11:54	CAM	TAL BUF
Total/NA	Analysis	8082A		1	350446	04/06/17 01:31	JMO	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 22:17	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:49	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:26	JRK	TAL BUF

Client Sample ID: B-7 | **Lab Sample ID: 480-115585-11**
Date Collected: 04/04/17 15:20 | **Matrix: Solid**
Date Received: 04/05/17 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	350286	04/05/17 07:12	CSW	TAL BUF

Client Sample ID: B-7 | **Lab Sample ID: 480-115585-11**
Date Collected: 04/04/17 15:20 | **Matrix: Solid**
Date Received: 04/05/17 01:00 | **Percent Solids: 83.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			350312	04/05/17 08:29	RJS	TAL BUF
Total/NA	Analysis	8270D		1	350542	04/06/17 20:08	LMW	TAL BUF
Total/NA	Prep	3550C			350519	04/06/17 07:39	RJS	TAL BUF
Total/NA	Analysis	8081B		1	350720	04/07/17 12:59	JLS	TAL BUF
Total/NA	Prep	3550C			350405	04/05/17 11:54	CAM	TAL BUF
Total/NA	Analysis	8082A		1	350446	04/06/17 01:47	JMO	TAL BUF
Total/NA	Prep	8151A			350340	04/05/17 09:29	RJS	TAL BUF
Total/NA	Analysis	8151A		1	350883	04/07/17 22:47	TRG	TAL BUF
Total/NA	Prep	3050B			350423	04/05/17 16:15	MVZ	TAL BUF
Total/NA	Analysis	6010C		1	351308	04/10/17 17:53	TRB	TAL BUF
Total/NA	Prep	7471B			350327	04/05/17 09:15	JRK	TAL BUF
Total/NA	Analysis	7471B		1	350417	04/05/17 12:28	JRK	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8081B	Organochlorine Pesticides (GC)	SW846	TAL BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
8151A	Herbicides (GC)	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7471B	Mercury (CVAA)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Barton & Loguidice, D.P.C.
Project/Site: Ashokan

TestAmerica Job ID: 480-115585-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-115585-1	SAMPLE-1	Solid	04/04/17 09:00	04/05/17 01:00
480-115585-2	SAMPLE-2	Solid	04/04/17 09:25	04/05/17 01:00
480-115585-3	SAMPLE-3	Solid	04/04/17 09:35	04/05/17 01:00
480-115585-4	SAMPLE-4	Solid	04/04/17 09:45	04/05/17 01:00
480-115585-5	SAMPLE-5	Solid	04/04/17 11:00	04/05/17 01:00
480-115585-6	SAMPLE-6	Solid	04/04/17 11:15	04/05/17 01:00
480-115585-7	SAMPLE-7	Solid	04/04/17 12:45	04/05/17 01:00
480-115585-8	SAMPLE-8	Solid	04/04/17 13:00	04/05/17 01:00
480-115585-9	SAMPLE-9	Solid	04/04/17 13:25	04/05/17 01:00
480-115585-10	B-6	Solid	04/04/17 16:00	04/05/17 01:00
480-115585-11	B-7	Solid	04/04/17 15:20	04/05/17 01:00

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

480-115585 COC

Client Information	Sampler: ROSEMARY McCORMICK	Lab PM: Deyo, Melissa L	Carrie	COC No: 480-93904-22545.1
Client Contact: Ms. Rosemary McCormick	Phone: (518) 218-1801	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: Barton & Loguidice, D.P.C.		Analysis Requested		Job #: 369.007-001
Address: 10 Airline Drive Suite 200	Due Date Requested:			Preservation Codes:
City: Albany	TAT Requested (days): Standard			
State, Zip: NY, 12205				
Phone: 518-218-1801(Tel)	PO #: Purchase Order not required			
Email: rmccormick@bartonandloguidice.com	WO #:			
Project Name: Soil and Groundwater Project	Project #: 48015584			
Site: Ashokan	SSOW#:			Other:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - TCL VOCs	6010C, 7471B	8270D - TCL SVOCs	8082A - PCBs	8081B - TCL Pesticides	8151A - Herbicides	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N	N	N		
SAMPLE - 1	4/4/17	9:00	G	Solid	N	N		X	X		X	X	4	
SAMPLE - 2	|	9:25	G	Solid	|	|	X	X	X				6	
SAMPLE - 3	|	9:35	G	Solid	|	|	X	X	X				6	
SAMPLE - 4	|	9:45	G	Solid	|	|	X	X	X				6	
SAMPLE - 5	|	11:00	G	Solid	|	|		X	X	X	X	X	5	
SAMPLE - 6	|	11:15	G	Solid	|	|		X	X	X	X	X	5	
SAMPLE - 7	|	12:45	G	Solid	|	|		X	X		X	X	4	
SAMPLE - 8	|	13:00	G	Solid	|	|		X	X		X	X	4	
SAMPLE - 9	|	13:25	G	Solid	|	|		X	X		X	X	4	
B-6	↓	14:00	G	Solid	↓	↓		X	X	X	X	X	5	
B-7	4/4/17	15:20	G	Solid	N	N		X	X	X	X	X	5	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: R / B+L	Date/Time: 4/4/17 1800	Company: B&L		Received by: Tim Kolln		Date/Time: 4-4-17 1800	Company: TA
Relinquished by: Tim Kolln	Date/Time: 4-4-17 1815	Company: TA		Received by:		Date/Time: 4-5-17 0100	Company:
Relinquished by:	Date/Time:	Company:		Received by:		Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks: 0.6 #1			

Login Sample Receipt Checklist

Client: Barton & Loguidice, D.P.C.

Job Number: 480-115585-1

Login Number: 115585
List Number: 1
Creator: Williams, Christopher S

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	FREEZER ON 05APRIL2017 @ 0500
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	B AND L
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Resolution No. 480 December 15, 2015

Establishing Capital Project No. 459 To Provide for Design and Engineering Work for the Ulster County Rail Trail Project along the Ashokan Reservoir ("Ashokan Rail Trail")

Referred to: The Economic Development, Tourism, Housing, Planning and Transit Committee (Chairman Briggs and Legislators Allen, Archer, Bartels, Litts, Maio and Maloney), The Public Works and Capital Projects Committee (Chairman Fabiano and Legislators Archer, Greene, Loughran and Roberts), and The Ways and Means Committee (Chairman Gerentine and Legislators Allen, Belfiglio, Briggs, Gregorius, Maio, Maloney and R. Parete)

Chairman of the Ways and Means Committee, Richard A. Gerentine, and Deputy Chairman Donald Gregorius offer the following:

WHEREAS, this resolution has been submitted by the County Executive on behalf of the Department of Planning; and

WHEREAS, the County of Ulster (hereinafter the "County") is the owner of 38.6 miles of the Ulster & Delaware (hereinafter "U&D") Railroad corridor running from the City of Kingston to Highmount in the Town of Shandaken, including approximately 11.5 miles of easement through lands adjacent to the Ashokan Reservoir owned by the City of New York (hereinafter the "Watershed Property") and managed by the New York City Department of Environmental Protection (hereinafter "NYCDEP"); and

WHEREAS, in December 2013, the Ulster County Executive and the then NYCDEP Commissioner announced an historic Agreement in Principle to facilitate and provide significant funding support for the conversion of 11.5 miles of the U&D corridor along the Watershed Property into a public, multi-use recreational trail (hereinafter the "Ashokan Rail Trail") in order to provide a major economic development boost to Ulster County and Route 28 businesses, expand recreational opportunities for local residents and visitors, improve public health and quality of life, and further develop Ulster County's rail trail network into a world-class tourism destination; and

WHEREAS, the Ashokan Rail Trail will open the northern shore of the Ashokan Reservoir to the public, without permit or fee, for the first time in more than a century and will ensure year-round public access for walking, running, bicycling, cross country skiing, snowshoeing and other non-motorized uses between Basin Road in West Hurley and Boiceville in the Town of Olive; and

WHEREAS, in August 2014, the Ulster County Legislature adopted Resolution No. 275, which established a policy to convert sections of the U&D corridor into rail trail only, including the 11.5 miles along the Watershed Property identified in the Agreement in Principle; and

Resolution No. 480 December 15, 2015

Establishing Capital Project No. 459 To Provide for Design and Engineering Work for the Ulster County Rail Trail Project along the Ashokan Reservoir ("Ashokan Rail Trail")

WHEREAS, in May 2015, the Ulster County Legislature adopted Resolution No. 187 authorizing the County Executive and Chairman of the Ulster County Legislature to execute a final agreement based on the Agreement in Principle with the City of New York to facilitate and provide significant funding and other support for a public rail trail along the Ashokan Reservoir (the "Agreement"); and

WHEREAS, the Agreement was fully executed on June 16, 2015 and included $2,500,000.00 million in direct grant assistance from NYCDEP for trail planning and construction; and

WHEREAS, on October 1, 2015 the first $1,000,000.00 in funding was released to the County in accordance with the Agreement; and

WHEREAS, the County is interested in moving forward design and engineering work for the Ashokan Rail Trail using a portion of the NYCDEP funding, which will be transferred into the Ashokan Rail Trail Capital Project for planning purposes only; and

WHEREAS, the proposed project being considered includes the construction of the Ashokan Reservoir Rail Trail and associated access facilities constitutes an action as defined under NYCRR Part 617.4(b)(6) [SEQRA]; and

WHEREAS, the County is desirous of establishing itself as a lead agency and conducting a coordinated review as provided for in NYCRR Part 617.6; now, therefore, be it

RESOLVED, this resolution authorizes expenditures exclusively for design and engineering work necessary to effectuate the design of the Ashokan Rail Trail; and, be it further

RESOLVED, that pursuant to 6 NYCRR Part 617.6(b) (3) of the Regulations pertaining to Article 8 of the Environmental Conservation Law of New York State (SEQRA), the Ulster County Legislature hereby declares its intent to serve as Lead Agency for the above recited project; and, be it further

RESOLVED, that the Ulster County Legislature has determined, after review of the criteria contained in 6 NYCRR Parts 617.4 (b)(6), that the project is a Type I Action; and, be it further

Resolution No. 480 December 15, 2015

Establishing Capital Project No. 459 To Provide for Design and Engineering Work for the Ulster County Rail Trail Project along the Ashokan Reservoir ("Ashokan Rail Trail")

RESOLVED, that the Ulster County Legislature will conduct a coordinated review and circulate its Notice of Intent to serve as Lead Agency, together with the EAF and accompanying documentation to all interested and involved agencies pursuant to 6 NYCRR Part 617.6(b) (2) (i) and 6 NYCRR Part 617.6(b) (3); and, be it further

RESOLVED, that pursuant to 6 NYCRR Part 617.6(b) (3), at the conclusion of an otherwise unchallenged thirty (30) day period following the date of transmittal of the Notice of Intent, the EAF and documentation aforesaid to the interested agencies, the Legislature shall become the Lead Agency under SEQRA for this project; and, be it further

RESOLVED, that Capital Project No. 459 Ashokan Rail Trail is hereby established as follows:

	CREATE	
Capital Project No. 459	Ashokan Rail Trail	$1,000,000.00

and, be it further

RESOLVED, that Capital Project No. 459- "Ashokan Rail Trail" is hereby established and that the 2015-2020 Capital Fund Budget is amended as follows:

	INCREASE	**AMOUNT**
HH 7197-0459-4300-4355 (App #)	Engineering Services	$550,000.00
HH 7197-0459-3200-2397 (Rev #)	Intergovernmental Charges Capital Projects, Other Gov't (NYC DEP Grant)	$550,000.00

and move its adoption.

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

Resolution No. 480 December 15, 2015

Establishing Capital Project No. 459 To Provide for Design and Engineering Work for the Ulster County Rail Trail Project along the Ashokan Reservoir ("Ashokan Rail Trail")

Passed Committee: Economic Development, Tourism, Housing, Planning, and Transit on December 1, 2015

Passed Committee: Public Works and Capital Projects on December 3, 2015

Passed Committee: Ways and Means on December 15, 2015

FINANCIAL IMPACT:
NONE

STATE OF NEW YORK
ss:
COUNTY OF ULSTER

I, the undersigned Clerk of the Legislature of the County of Ulster, hereby certify that the foregoing resolution is the original resolution adopted by the Ulster County Legislature on the 15th Day of December in the year Two Thousand and Fifteen, and said resolution shall remain on file in the office of said clerk.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the County of Ulster this 16th Day of December in the year Two Thousand and Fifteen.

Victoria A. Fabella, Clerk
Ulster County Legislature

Submitted to the County Executive this 16th Day of December, 2015.

Victoria A. Fabella, Clerk
Ulster County Legislature

Approved by the County Executive this 22 Day of December, 2015.

Michael P. Hein, County Executive

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

Daniel Whitehead, Regional Permit Administrator
New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, NY 12561

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

Dear Mr. Whitehead:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White

Christopher White
Deputy Director

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

Ruth Pierpont, Deputy Commissioner
New York State Historic Preservation Office
Peebles Island, PO Box 189
Waterford, NY 12188

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

Dear Deputy Commissioner Pierpont:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White

Christopher White
Deputy Director

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

United States Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, NY 13045

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

To Whom It May Concern:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White
Deputy Director

MICHAEL P. HEIN
County Executive

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

Andrew C. Dangler
United States Army Corps of Engineers
1 Buffington Street
Build 10, 3rd Floor
Watervliet, NY 12189

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

Dear Mr. Dangler:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White
Deputy Director

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

New York City Department of Environmental Protection
71 Smith Avenue
Kingston, NY 12401

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

To Whom It May Concern:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White
Deputy Director

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

Hon. Sylvia B. Rozzelle
Town of Olive
45 Watson Hollow Road
West Shokan, NY 12494

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

Dear Supervisor Rozzelle:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White

Christopher White
Deputy Director

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

Hon. Gary S. Bellows
Town of Hurley
10 Wamsley Place
Hurley, NY 12443

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

Dear Supervisor Bellows:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White
Deputy Director

COUNTY OF ULSTER

PLANNING DEPARTMENT

244 Fair Street, PO Box 1800
Kingston, New York 12402
(845) 340-3340

MICHAEL P. HEIN
County Executive

DENNIS DOYLE
Director

CHRISTOPHER WHITE
Deputy Director

August 31, 2016

Todd Westhuis, P.E., Regional Director
New York State Dept. of Transportation, Region 8
4 Burnett Boulevard
Poughkeepsie, NY 12603

Re: Notice of Intent to Establish Lead Agency
Ashokan Rail Trail Project
Towns of Hurley and Olive, Ulster County

Dear Mr. Westhuis:

Pursuant to the State Environmental Quality Review Act ("SEQRA") and 6 NYCRR 617.6(b)(3)(i), please be advised that the Ulster County Legislature intends to establish itself as Lead Agency for the purposes of fulfilling the SEQRA requirements relative to the proposed Ashokan Rail Trail project (the "Project"), which is located in the Towns of Hurley and Olive in Ulster County. The County has classified the Project as a Type I action.

Ulster County is proposing construction of an 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Project will establish a non-motorized recreational trail on the County-owned Ulster & Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and tracks, construction of multiple trailheads, reconstruction of a failed major culvert, repair to existing drainage structures, and replacement of the bridge structure over the Esopus Creek near Boiceville, which was destroyed during Hurricane Irene in 2011. The Project goals are to improve recreational opportunities, enhance quality of life, and boost economic development and tourism in Ulster County while also protecting the quality of the Ashokan Reservoir water supply.

As required pursuant to 6 NYCRR 617.6(b)(3)(i), please find enclosed for your review Part 1 of a completed Full Environmental Assessment Form which describes the proposed Project and is complete with all information available at this time. In accordance with 6 NYCRR 617.6(b)(3)(i), all involved agencies must agree upon Lead Agency designation within thirty (30) calendar days of this letter. If you are in agreement with the proposed SEQRA Lead Agency Designation, then no response is required. In the event that you disagree with the proposed designation of the Ulster County Legislature as Lead Agency for this proposed project, please send written notice of said disagreement to my attention at the following address by September 30, 2016:

Ulster County Department of Planning
244 Fair Street, PO Box 1800
Kingston, NY 12402

If you have any questions or would like any additional information on the proposed Project, please do not hesitate to contact me at (845) 340-3338 or by email to cwhi@co.ulster.ny.us.

Sincerely,

Christopher White
Deputy Director

Resolution No. 327 August 15, 2017

Authorizing The Chairman Of The Ulster County Legislature To Execute The Ashokan Trail Easement With The City Of New York

Referred to: The Economic Development, Tourism, Housing, Planning and Transit Committee (Chairman Maloney and Legislators Berky, Delaune, Lapp, Litts, Maio and Rodriguez)

Chairman of the Economic Development, Tourism, Housing, Planning, and Transit Committee, James F. Maloney, and Deputy Chairman Hector Rodriguez offer the following:

WHEREAS, this Resolution has been submitted by the County Executive on behalf of the Department of Planning; and

WHEREAS, the County of Ulster is the owner of 38.6 miles of the Ulster & Delaware Railroad Corridor ("U&D Corridor) running from the City of Kingston to Highmount in the Town of Shandaken, including approximately 11.6 miles of easement for railroad purposes ("Railroad Easement") through lands adjacent to the Ashokan Reservoir owned by the City of New York ("Watershed Property") and managed by the New York City Department of Environmental Protection ("DEP"); and

WHEREAS, in December 2013, the Ulster County Executive and DEP announced an historic Agreement in Principle to facilitate and provide significant funding support for the conversion of the Railroad Easement along the Watershed Property into a public, multi-use recreational trail ("Ashokan Rail Trail") in order to provide economic development to Ulster County and Route 28 businesses, expand recreational opportunities for local residents and visitors, improve public health and quality of life, and further develop Ulster County's rail trail network into a world-class tourism destination; and

WHEREAS, the Ashokan Rail Trail along Watershed Property will open the northern shore of the Ashokan Reservoir to the public, without permit or fee, for the first time in more than a century and will ensure year-round public access for walking, running, bicycling, cross country skiing, snowshoeing and other non-motorized uses between Basin Road in West Hurley and Route 28A in Boiceville on a recreational trail that is fully accessible for persons with disabilities and limited mobility; and

WHEREAS, in May 2015, the Ulster County Legislature authorized the County Executive and Chairman of the Legislature to execute an Agreement with the City of New York to accept $2.5 million in grant fund for and facilitate the creation of the Ashokan Rail Trail ("MOA"); and

Authorizing The Chairman Of The Ulster County Legislature To Execute The Ashokan Trail Easement With The City Of New York

WHEREAS, in December 2015, the Ulster County Legislature adopted a compromise rail and trail policy for the U&D Corridor that delineated the segment along the Watershed Lands for conversion into a public recreational trail and also established and funded Capital Project No. 459—the Ashokan Rail Trail—for engineering design; and

WHEREAS, under the MOA, the County would construct and operate the Ashokan Rail Trail under a Land-Use Permit and eventually, a Modified Ashokan Railroad Easement, but based on concerns expressed by the Ulster County Legislature and others about the protection of the County's perpetual Railroad Easement, the DEP and County have agreed instead to establish a new, separate permanent easement for trail ("Ashokan Trail Easement"), which ensures that the County can construct and operate a trail without modifying, altering, or extinguishing the County's Railroad Easement or its rights to reactivate railroad uses on the Railroad Easement, which cannot be revoked or cancelled by DEP, as it could with a Land-Use Permit; and

WHEREAS, the County has been awarded approximately $6.3 million in grant funding for the Ashokan Rail Trail by DEP, the New York State Department of Conservation, and New York State Parks, Recreation and Historic Preservation and has requested an additional $2.3 million from the Federal Emergency Management Agency for replacement of the Boiceville Bridge; and

WHEREAS, pursuant to Resolution No. 480 of December 15, 2015 Ulster County declared it intent to act as lead agency as provided for in 6NYCRR Part 617.6(b)(2)(i) of the Regulations pertaining to Article 8 of the Environmental Conservation Law of New York State (SEQRA); and

WHEREAS, Ulster County circulated the necessary notifications on August 31, 2016 and receiving no objections became lead agency 30 days after this date; and

WHEREAS, Ulster County has examined the proposed action consisting of the approval of Ashokan Trail Easement in consideration of this action being a lawful segmented review pursuant to the SEQRA Regulations at 6 NYCRR Part 617.3(g)(1); and

WHEREAS, the Ulster County Legislature has reviewed the Environmental Record prepared for this action and the Ashokan Trail Easement as now on file with the Clerk of the Legislature; now, therefore, be it

Resolution No. 327 August 15, 2017

Authorizing The Chairman Of The Ulster County Legislature To Execute The Ashokan Trail Easement With The City Of New York

RESOLVED, that the Ulster County Legislature based on the review of the Environmental Record, the Ashokan Trail Easement itself, and the requirements under 6 NYCRR Part 617 determines that approval of the Ashokan Trail Easement is a discrete action that can be considered separate and apart from any trail construction and that as such a segmented review is warranted and will be no less protective of the environment nor will it commit the Legislature to any future course of action; and, be it further

RESOLVED, that the Ulster County Legislature based on the review of the Environmental Record finds that the Ashokan Trail Easement constitutes an unlisted action and its approval will not have an adverse impact on the environment and hereby authorizes the issuance of a negative declaration as provided in 6NYCRR 617.7; and, be it further

RESOLVED, the Chairman of the Ulster County Legislature is hereby authorized to execute the Ashokan Trail Easement with the City of New York in the form as filed with the Clerk of the Ulster County Legislature; and, be it further

RESOLVED, all notices, requests and/or approvals required by the Ashokan Trail Easement that are sent by, or delivered to the Ulster County Executive and/or the Ulster County Attorney pursuant to Section 21 of the Easement shall be forwarded promptly to the Clerk of the Ulster County Legislature,

and moves its adoption.

ADOPTED BY THE FOLLOWING VOTE:

AYES: 23 NOES: 0

Passed Committee: Economic Development, Tourism, Housing, Planning and Transit with Paragraph 21 of the Deed of Easement amended to include notice to the Legislature on August 1, 2017

FINANCIAL IMPACT:
NONE

Resolution No. 327 August 15, 2017

Authorizing The Chairman Of The Ulster County Legislature To Execute The Ashokan Trail Easement With The City Of New York

Legislator Greene motioned, seconded by Legislator Donaldson, to insert an additional WHEREAS (placed as 6th WHEREAS) and RESOLVED (placed as 3rd RESOLVED) to read as follows:

"WHEREAS, maximizing the public benefits of the Ulster County-owned U&D Railroad Corridor includes the highest and best combination of rail and trail; and

RESOLVED, that the final design of the Ashokan Rail Trail include leaving the existing railroad tracks operable within the U&D Corridor from MP 10 to MP 11.1, and be it further"

MOTION DEFEATED BY THE FOLLOWING VOTE:

AYES: 5 NOES: 18
(AYES: Legislators Donaldson, Greene, J. Parete,
R. Parete, and Wawro)

STATE OF NEW YORK
ss:
COUNTY OF ULSTER

I, the undersigned Clerk of the Legislature of the County of Ulster, hereby certify that the foregoing resolution is the original resolution adopted by the Ulster County Legislature on the 15th Day of August in the year Two Thousand and Seventeen, and said resolution shall remain on file in the office of said clerk.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the County of Ulster this 17th Day of August in the year Two Thousand and Seventeen.

|s| Victoria A. Fabella
Victoria A. Fabella, Clerk
Ulster County Legislature

Submitted to the County Executive this
17th Day of August, 2017.

|s| Victoria A. Fabella
Victoria A. Fabella, Clerk
Ulster County Legislature

Approved by the County Executive this
21st Day of August, 2017.

|s| Michael P. Hein
Michael P. Hein, County Executive

Easement Only

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project:
Ashokan Rail Trail - Easement Only - Segmented Review

Project Location (describe, and attach a general location map):
Towns of Hurley, Olive, and Woodstock Ulster County - See Attached Map

Brief Description of Proposed Action (include purpose or need):
This action is the execution of the Ashokan Trail Easement between Ulster County and New York City as part of the Ashokan Rail Trail (ART). The Easement is being considered as lawful segmentation under SEQRA and is part of a larger 11.5-mile pedestrian and bicycle trail from Basin Road in the Town of Hurley to Route 28A in the Town of Olive, as shown on the enclosed Project area map. The Easement covers the lands associated with this project and consists of approximate 230 acres that follows the boundaries of the existing easement for railroad easement held by the County on these lands. The Easement specifically provides the County with the necessary property rights to construct the ART while maintaining all of the underlying rights associated with the railroad easement. No construction is authorized by the Easement and the County will continue to progress the SEQRA environmental review for the ART itself as a Type I Action .

Name of Applicant/Sponsor: Ulster County, C/O Mr. Michael Hein, County Executive	Telephone: (845) 340-3800 E-Mail: exec@co.ulster.ny.us	
Address: 244 Fair Street PO Box 1800		
City/PO: Kingston	State: NY	Zip Code: 12402
Project Contact (if not same as sponsor; give name and title/role): Mr. Christopher White, Ulster County Planning Dept., Deputy Director/Project Manager	Telephone: (845) 340-3338 E-Mail: cwhi@co.ulster.ny.us	
Address: 244 Fair Street PO Box 1800		
City/PO: Kingston	State: NY	Zip Code: 12402
Property Owner (if not same as sponsor): New York City Department of Environmental Protection (County owns railroad easement)	Telephone: (845) 340-7218 E-Mail: cLaing@dep.nyc.gov	
Address: 71 Smith Avenue		
City/PO: Kingston	State: NY	Zip Code: 12401

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity		If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees	☐Yes ☑No		
b. City, Town or Village Planning Board or Commission	☐Yes ☑No		
c. City Council, Town or Village Zoning Board of Appeals	☐Yes ☑No		
d. Other local agencies	☐Yes ☑No		
e. County agencies	☑Yes ☐No	Ulster County Legislature (Easement Approval)	
f. Regional agencies	☑Yes ☐No	NYCDEP (Approval of the Easement)	7/19/2017
g. State agencies	☐Yes ☑No		
h. Federal agencies	☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

New York City Watershed Boundary - subject to NYC Watershed Rules and Regulations

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes ☐No

If Yes, identify the plan(s):

Ulster County Open Space Plan

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Conservation Residential and very low density residential

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? ______

C.4. Existing community services.

a. In what school district is the project site located? Onteora Central School District, Kingston City Schools

b. What police or other public protection forces serve the project site?
Olive Police Department, Ulster County Sheriff, NYS Police, NYC DEP Police

c. Which fire protection and emergency medical services serve the project site?
Olive Fire Department, Olive First Aid, Inc., Hurley Fire Department

d. What parks serve the project site?
None

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Legal - Recreational - allow trail use via easement

b. a. Total acreage of the site of the proposed action? 230 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 230 acres

Trail easement & existing rail easement

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % ______ Units: ______

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? ______
iv. Minimum and maximum proposed lot sizes? Minimum ______ Maximum ______

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: ______ months
ii. If Yes:
- Total number of phases anticipated ______
- Anticipated commencement date of phase 1 (including demolition) ______ month ______ year
- Anticipated completion date of final phase ______ month ______ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: ______

This action - approval of the easement is being considered as a lawful segmentation and only includes 1 phase Project has a whole as three phases - easement approval, demolition, and construction

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	___________	___________	___________	___________
At completion of all phases	___________	___________	___________	___________

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures ___________
ii. Dimensions (in feet) of largest proposed structure: ________height; ________width; and _______ length
iii. Approximate extent of building space to be heated or cooled: ______________________ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: ________________________________
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:
____
iii. If other than water, identify the type of impounded/contained liquids and their source.
____
iv. Approximate size of the proposed impoundment. Volume: ____________ million gallons; surface area: ____________ acres
v. Dimensions of the proposed dam or impounding structure: ________ height; _______ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i .What is the purpose of the excavation or dredging? ________________________________
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): ________________________________
- Over what duration of time? ________________________________

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
____
____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. ________________________________
____
v. What is the total area to be dredged or excavated? ________________________acres
vi. What is the maximum area to be worked at any one time? ________________________ acres
vii. What would be the maximum depth of excavation or dredging? ____________________ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: ________________________________
____
____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): ________________________________
____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☑ No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☑ No
If Yes:
- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☑ No
If Yes:
i. Total anticipated water usage/demand per day: ______ gallons/day
ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No
If Yes:
- Name of district or service area:
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:
- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:
- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: ______ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No
If Yes:
i. Total anticipated liquid waste generation per day: ______ gallons/day
ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☑ No
If Yes:
- Name of wastewater treatment plant to be used:
- Name of district:
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: ____________________

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:
- Applicant/sponsor for new district: ____________________
- Date application submitted or anticipated: ____________________
- What is the receiving water for the wastewater discharge? ____________________

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: ____________________

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. ____________________

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

____

- If to surface waters, identify receiving water bodies or wetlands: ____________________
- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

____

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

____

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

____

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☑No

ii. In addition to emissions as calculated in the application, the project will generate:
- ___________Tons/year (short tons) of Carbon Dioxide (CO_2)
- ___________Tons/year (short tons) of Nitrous Oxide (N_2O)
- ___________Tons/year (short tons) of Perfluorocarbons (PFCs)
- ___________Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- ___________Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- ___________Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐ Yes ☑ No

If Yes:

i. Estimate methane generation in tons/year (metric): __________

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): __________

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐ Yes ☑ No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐ Yes ☑ No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐ Weekend

☐ Randomly between hours of ______ to ______.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: ______

iii. Parking spaces: Existing ______ Proposed ______ Net increase/decrease ______

iv. Does the proposed action include any shared use parking? ☐ Yes ☐ No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐ Yes ☐ No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐ Yes ☐ No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐ Yes ☐ No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐ Yes ☐ No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: __________

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐ Yes ☐ No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: Not Applicable
- Saturday: ______
- Sunday: ______
- Holidays: ______

ii. During Operations:

- Monday - Friday: Not Applicable
- Saturday: ______
- Sunday: ______
- Holidays: ______

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

____

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: ______________________________

n.. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

____

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: ______________________________

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: ______________________________

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored ______________________________

ii. Volume(s) ______ per unit time __________ (e.g., month, year)

iii. Generally describe proposed storage facilities: ______________________________

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

____

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☑ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: __________________ tons per ______________ (unit of time)
- Operation : __________________ tons per ______________ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: ______________________________
- Operation: ______________________________

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: ______________________________
- Operation: ______________________________

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): ______

ii. Anticipated rate of disposal/processing:

- ________ Tons/month, if transfer or other non-combustion/thermal treatment, or
- ________ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: ______ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: ______

ii. Generally describe processes or activities involving hazardous wastes or constituents: ______

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: ______

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: ______

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: ______

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): Drinking Water Supply; Recreational- Fishing and Hunting

ii. If mix of uses, generally describe:

Open space/ forested area with linear railroad corridor adjoining a NYC DEP reservoir and running parallel to State Route 28

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	0	
• Forested	161	161	
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	
• Surface water features (lakes, ponds, streams, rivers, etc.)	14	14	
• Wetlands (freshwater or tidal)	18	18	
• Non-vegetated (bare rock, earth or fill)	0	0	
• Other Describe: Rail Corridor ballast area	37	37	

c. Is the project site presently used by members of the community for public recreation? ☑ Yes ☐ No
i. If Yes: explain: Hunting and Fishing - Requires NYCDEP Access Permit

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No
If Yes,
i. Identify Facilities:
DD's Daycare- 36 Bonnie Brae Lane, Shokan

e. Does the project site contain an existing dam? ☐ Yes ☑ No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: ______ feet
- Dam length: ______ feet
- Surface area: ______ acres
- Volume impounded: ______ gallons OR acre-feet

ii. Dam's existing hazard classification: ______
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No
If Yes:
i. Has the facility been formally closed? ☐ Yes ☐ No
- If yes, cite sources/documentation: ______

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: ______

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☑ Yes – Spills Incidents database — Provide DEC ID number(s): Multiple, Hazardous Waste Reports
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): ______
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: ______

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No
If yes, provide DEC ID number(s): ______
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: ______
- Describe the type of institutional control (e.g., deed restriction or easement): ______
- Describe any use limitations: ______
- Describe any engineering controls: ______
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: ______

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 6.5 feet

b. Are there bedrock outcroppings on the project site? ☑ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? 10 %

c. Predominant soil type(s) present on project site:

Oquaga-Arnot-Rock outcrop	29 %
Tunkhannock gravelly loam	17 %
Lackawanna and Swartswood	6 %

d. What is the average depth to the water table on the project site? Average: 6.5 feet

e. Drainage status of project site soils:
☑ Well Drained: 82 % of site
☑ Moderately Well Drained: 10.4 % of site
☑ Poorly Drained 7.6 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 30 % of site
☑ 10-15%: 40 % of site
☑ 15% or greater: 30 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: ______

h. Surface water features.
i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No
ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No
If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.
iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 862: 555, 549, 551, 543, 523 Classification A(TS), A(T), AA(T), C(TS) +
- Lakes or Ponds: Name ______ Classification ______
- Wetlands: Name Federal and State Approximate Size 100+
- Wetland No. (if regulated by DEC) ______

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☐ No
If yes, name of impaired water body/bodies and basis for listing as impaired:
Ashokan Reservoir, Esopus Creek - Metals (silt/sediment),

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500 year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:
i. Name of aquifer: Principal Aquifer - no known name

m. Identify the predominant wildlife species that occupy or use the project site:

white tailed deer	turkey	black bear
eastern chipmunk	eastern gray squirrel	coyote

n. Does the project site contain a designated significant natural community? ☑ Yes ☐ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): Vernal pool

ii. Source(s) of description or evaluation: Site Investigations, NYC DEP

iii. Extent of community/habitat:

- Currently: .75 acres
- Following completion of project as proposed: .75 acres
- Gain or loss (indicate + or -): 0 acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

Indiana bat (endangered), Northern long-eared bat (threatened), bog turtle (threatened), bald eagle (NYS threatened),

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☑ Yes ☐ No

Sharp-shinned hawk, osprey, red-shouldered hawk, American bittern, whip-poor-will, common nighthawk

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☑ Yes ☐ No

If yes, give a brief description of how the proposed action may affect that use:

Access to designated fishing and hunting areas will not be impacted by the approval of the easement

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: __________

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? __________

ii. Source(s) of soil rating(s): __________

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: __________

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No

If Yes:

i. CEA name: __________

ii. Basis for designation: __________

iii. Designating agency and date: __________

e. Does the project site contain, or is it substantially contiguous to, a building, 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? If Yes: *i.* Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District *ii.* Name: ______ *iii.* Brief description of attributes on which listing is based: ______	☐ Yes ☑ No
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑ Yes ☐ No
g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: *i.* Describe possible resource(s): ______ *ii.* Basis for identification: ______	☐ Yes ☑ No
h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: *i.* Identify resource: NY State Rt 28 Scenic Byway, Ashokan Reservoir *ii.* Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): NY State Designation Rt. 28 Scenic Byway Ashokan Reservoir overlooks and trial *iii.* Distance between project and resource: <0.5 miles.	☑ Yes ☐ No
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: *i.* Identify the name of the river and its designation: ______ *ii.* Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No	☐ Yes ☑ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name County Of Ulster   Date July 25, 2017

Signature Christopher White -Signature on File   Title Deputy Director of Planning Project Manager

PRINT FORM

Easement Only

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Agency Use Only [If applicable]
Project :
Date :

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes**" to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No**" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)
If "Yes", answer questions a - j. If "No", move on to Section 2.

☑ NO ☐ YES

	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _______________		☐	☐

2. Impact on Geological Features The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) *If "Yes", answer questions a - c. If "No", move on to Section 3.*	☑ NO	☐ YES	
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. Identify the specific land form(s) attached: ________________________________ ____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: ____	E3c	☐	☐
c. Other impacts: ____ ____		☐	☐

3. Impacts on Surface Water The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) *If "Yes", answer questions a - l. If "No", move on to Section 4.*	☑ NO	☐ YES	
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may create a new water body.	D2b, D1h	☐	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☐	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☐	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☐	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☐	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☐	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☐	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☐	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☐	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☐	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☐	☐

l. Other impacts: ____________________________________		☐	☐

4. Impact on groundwater
The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. ☑ NO ☐ YES
(See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)
If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: ____________________	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: ____________________________________		☐	☐

5. Impact on Flooding
The proposed action may result in development on lands subject to flooding. ☑ NO ☐ YES
(See Part 1. E.2)
If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☐	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☐	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☐	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☐	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☐	☐

g. Other impacts: ____ ____		◻	◻

6. Impacts on Air

The proposed action may include a state regulated air emission source. ☑ NO ☐ YES
(See Part 1. D.2.f., D,2,h, D.2.g)
If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	◻	◻
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	◻	◻
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	◻	◻
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	◻	◻
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	◻	◻
vi. 43 tons/year or more of methane	D2h	◻	◻
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	◻	◻
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	◻	◻
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	◻	◻
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	◻	◻
f. Other impacts: ____ ____		◻	◻

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☑ NO ☐ YES
If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	◻	◻
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	◻	◻
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	◻	◻
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	◻	◻

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☐	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: ______________________________	E2n	☐	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: ______________________________ ______________________________	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: ______________________________ ______________________________		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: ______________________________		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: ____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☑ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may 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.	E3e	☐	☐
b. The proposed action may occur 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.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: ____	E3g	☐	☐

d. Other impacts: ____		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: ____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: ____		☐	☐

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: ______________________________		☐	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: ______________________________			

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: ______________________________		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☑ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	**No,or small impact may cccur**	**Moderate to large impact may occur**
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: ______________________________			

17. Consistency with Community Plans The proposed action is not consistent with adopted land use plans. ☑ NO ☐ YES (See Part 1. C.1, C.2. and C.3.) *If "Yes", answer questions a - h. If "No", go to Section 18.*			
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: ______________________________		☐	☐

18. Consistency with Community Character The proposed project is inconsistent with the existing community character. ☑ NO ☐ YES (See Part 1. C.2, C.3, D.2, E.3) *If "Yes", answer questions a - g. If "No", proceed to Part 3.*			
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: ______________________________		☐	☐

PRINT FULL FORM

Agency Use Only [IfApplicable]

Project :
Date :

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

See Attached

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☐ Type 1 ☑ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Ulster County Legislature pursuant to Resolution No. 327 of August 15, 2017 as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Ashokan Rail Trail Easement

Name of Lead Agency: Ulster County Legislature

Name of Responsible Officer in Lead Agency: Kenneth J. Ronk, Jr.

Title of Responsible Officer: Chairman

Signature of Responsible Officer in Lead Agency: Date: 8/18/2017

Signature of Preparer (if different from Responsible Officer) Date: 8/18/2017

For Further Information:

Contact Person: Dennis Doyle

Address: 244 Fair Street Box 1800 Kingston, NY 12402

Telephone Number: 845-340-3340

E-mail: ddoy@co.ulster.ny.us

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

ULSTER COUNTY LEGISLATURE DETERMINATION
SEQRA LAWFUL SEGEMENTATION AND NEGATIVE DECLARATION

In the Matter of Approving the Execution of the Ashokan Trail Easement by Ulster County: Ulster County Legislature

The Ulster County Legislature (the "County") is proposing construction of an 11.6 mile pedestrian and bicycle trail on lands owned by the City of New York (the "City") and managed by the New York City Department of Environment Protection ("DEP")in the Towns of Olive, Hurley, and Woodstock ("Project"). The Project will establish a non-motorized recreational trail on the County's Ulster and Delaware Railroad corridor along the northern shore of the Ashokan Reservoir. The Project includes repurposing of the existing railroad bed and ballast, removal of rail ties and track, repair and reconstruction of failed drainage structures and replacement of a bridge structure over the Esopus Creek near Boiceville which was destroyed during Hurricane Irene in 2011.

The County pursuant to Resolution No. 480 of December 15, 2015 declared its intent to act as Lead Agency as provided for in 6NYCRR Part 617.6(b)(2)(i) of the Regulations pertaining to Article 8 of the Environmental Conservation Law of New York State ("SEQRA") and categorized the Action as Type I. The County circulated the necessary notifications on August 31, 2016 and receiving no objections became Lead Agency 30 days after this date.

The County originally sought a land use permit from DEP that would allow it to construct the trail. Subsequent concerns by the County about the need for a more permanent property interest led to the negotiation and development of the Ashokan

Trail Easement (the “Trail Easement”). The Trail Easement is permanent property interest for the benefit of the County that allows construction, maintenance and operation of the Ashokan Rail Trail (“ART”) while preserving the County’s perpetual easement for railroad purposes (“Railroad Easement”) and protects all of the rights associated with the existing Railroad Easement. The Ashokan Trail Easement is attached as Exhibit A. A summary map of the location of the Trail Easement is attached as Exhibit B.

Although the construction of the ART has been classified as a Type I Action under SEQRA, the County, as Lead Agency, has examined the execution of the Trail Easement in accordance with SEQRA and finds under 6 NYCRR 617.4, approval of the Trail Easement is an Unlisted Action. However, the County will examine the potential adverse environmental effects of executing the Trail Easement under procedures for a Type I Action.

In accordance with the above, the County will conduct a lawful segmentation of the SEQRA environmental review for the approval of the Trail Easement pursuant to 6 NYCRR Part 617.3(g(1)

In this manner, the approval of the Trail Easement would be permitted while the phase of the Project, consisting of the construction of the trail itself and other associated repairs and replacements associated with said construction, undergoes continuing SEQRA reviews and permitting.

Legal Address of Lawful Segmentation in the Instant Action

The SEQRA regulations generally disfavor what is called “segmentation,” which is defined as “the division of the environmental review of an action such that various activities or stages are addressed under SEQRA as though they were independent, unrelated activities, needing individual determinations of significance." [6 NYCRR Part 617.2 (ag)].

6 NYCRR Part 617.3(g) provides that actions commonly consist of a set of activities or steps and that the entire set of activities or steps must be considered the action, whether the agency decision-making relates to the action as a whole or to only a part of it.

In making a determination of environmental significance for any Unlisted Action or Type I Action, the Lead Agency must consider the action as the entire set of activities or steps involved [6 NYCRR Part 617.7(b)(1)] and, for the purpose of determining whether such action may cause a significant effect on the environment, the Lead Agency must consider reasonably related long-term, short-term, direct, indirect and cumulative impacts, including other simultaneous or subsequent actions which are:

(1) included in any long-range plan of which the action under consideration is a part, or

(2) likely to be undertaken as a result thereof, or

(3) dependent thereon.

However, segmentation is not prohibited by the law and if a Lead Agency believes that circumstances warrant a segmented review, it may permit the same provided it clearly states in its determination of significance and any subsequent determination of significance the supporting reasons and demonstrates that such review is clearly no less protective of the environment.

There have been numerous cases dealing with the issue of segmentation since SEQRA went into effect and interpreting the above regulations. Most of the reported cases involve whether or not a particular action amounts to segmentation, and not whether or not segmentation is or would be permissible under the circumstances.

In the controlling case of In the Matter of Concerned Citizens for the Environment v. Zagata, 243 AD2d 20 (3rd Dept. 1998), the Appellate Division for the Third Department permitted the segmentation of a proposed solid waste disposal facility when it reviewed the application to construct a solid waste transfer station separately from the application to construct an incinerator and materials recovery facility that were part of the same project.

The court held that segmented review is permissible where the Lead Agency believes that it is warranted under the circumstances, provided the agency clearly states its reasons for permitting segmentation and demonstrates that such review is no less protective of the environment, and that any related actions be identified and discussed to the fullest extent possible.

In its analysis of the issue of segmentation, the court stated that the reasons for disfavoring segmentation of environmental review are twofold.

The first reason given by the court is the danger that in considering related actions separately, a decision by the agency involving review of an earlier action may be “practically determinative” of a subsequent action. In other words, by approval of an earlier action an administrative board would, in effect, commit the board to a definite course of future conduct so that the board could not, as a practical matter, disapprove any subsequent action involving the combined action.

A common example of improper segmentation involves issuance of a Negative Declaration for the change in the zoning classification of a specific parcel of land for the express purpose of authorizing its subsequent development for an identified and currently proposed project which may or will cause a significant adverse impact. See Matter of New York Canal Improvement Association v. Town of Kingsbury, 240 AD2d 930 (3rd Dept. 1997).

The second reason given by the court is that when a project that would have a significant adverse effect on the environment is broken up or divided into two or more component parts which, individually, would not have as significant an environmental impact as the entire project. Or, instances where one or more aspects of the project might fall below the threshold requiring any environmental review.

In other words, by not considering the entire project at one time, the environmental review of the project would be lessened, or perhaps eliminated, altogether.

Applying the above two-pronged test to the facts and circumstances of this particular action, the approval of the Trail Easement, the County finds that the issuance of a Negative Declaration does not constitute impermissible segmentation for the following reasons:

1. **The Action Is Not Practically Determinative:** An approval by the Ulster County Legislature of the Trail Easement does not commit the County to approve any subsequent action associated with the construction of the Ashokan Rail Trail.

This action is capable of standing by itself as a discrete approval and does not impair, compromise or prejudice the exercise of discretion vested in the County of Ulster Legislature to conduct a full environmental review of the Project, nor does the same commit said Legislature to a “definite course of future conduct” thereby forcing the approval of Project construction.

It is important to note that the language in the Trail Easement states:

> “T*he grant of this Trail Easement is specifically conditioned upon the construction of the ART in accordance with the design of the trail approved by the City. Any modification*~~s~~ *to the design shall be approved by the City, the same of which shall not be withheld unreasonably.”*

This language places the Easement subordinate to the approval of the construction of the Trail itself. The County remains free to decide whether or not to proceed with construction subsequent to the necessary environmental scrutiny.

2. **The Action Is No Less Protective of the Environment:** As to the second prong of the Concerned Citizens v. Zagata test, the identified environmental impacts or effects that are reasonably likely to result from this action are, by themselves, negligible and do not require the preparation of an Environmental Impact Statement (“EIS”). As noted above, the Trail Easement does not commit the County to any future course of action. In addition, approval of the Trail Easement does not authorize physical alteration or construction activities associated with the building of the ART, itself.

The future demolition and construction phases which comprise the Project will require, at a minimum, approval by the County for funding and construction authorization, final design and other approvals by DEP, and approvals from the Town of Hurley, the New York State Department of Environmental Conservation (“DEC”), and the New York State Department of Transportation (“NYSDOT”). These discretionary approvals are also actions under SEQRA and trigger a de novo environmental review [6 NYCRR Part 617.2(a)(1)]. These activities are being progressed by the County as a Type I Action.

In this regard, the environmental impacts associated with the construction and operation of the ART will continue to be evaluated under a coordinated SEQRA review as a Type 1 Action by the County of Ulster and the other involved and interested agencies as noted above. Parts 1 and 2 of the SEQRA Full Environmental Assessment Form for the Project, as circulated with the request for lead agency, is attached as Exhibit C and describes the Project in its entirety. A list of the involved and interested agencies is provided as Appendix D.

Accordingly, this subsequent environmental review will analyze the proposed Project and appurtenances in light of a completed Detailed Design and Storm Water Pollution Prevention Plan (“SWPPP”), with the County Legislature and other involved agencies retaining extensive discretionary approval authority. As such, the comprehensive environmental review associated therewith is no less protective of the environment.

Conclusion: As a result, where all discretionary approvals from the Lead Agency and the involved agencies remain, it cannot be reasonably posited that the execution of the Ashokan Trail Easement will be “practicably determinative” of the Ashokan Rail Trail Project as a whole. In addition, where the Lead Agency is conducting a coordinated review of the Project as a Type I Action, the approval of the Trail Easement that does not include any physical alteration of lands, considered as a separate action will neither impair nor reduce the effectiveness of subsequent environmental review.

The Ulster County Legislature, having considered the factors associated with a segmented review under SEQRA and the environmental impacts associated with approval of the Ashokan Rail Trail Easement hereby determines that:

1. Approval of the Ashokan Trail Easement may be carried out as a lawful segmented review; and
2. A review of record supports the conclusion that no adverse environmental effects will occur from approval of the Ashokan Trail Easement, and that a Negative Declaration pursuant to 6 NYCRR Part 617.3(g)(1) is applicable and hereby issued; and
3. Such SEQRA segmentation and determination pertaining to the Trail Easement shall be noted and referenced in all future environmental actions and determinations for the Ashokan Rail Trail Project.

HDR

STATE OF NEW YORK
RICHARD C. SEMENICK
LICENSED PROFESSIONAL ENGINEER
NO. 066220
7/20/17

July 20, 2017

Mr. Chris White, Deputy Director
Ulster County Planning Department
P.O. Box 1800
244 Fair Street
Kingston, NY 12402-1800

Re: Ulster & Delaware Railroad - Ashokan Reservoir Segment
Summary of Opinion Statement

Dear Mr. White:

HDR was engaged by the Ulster County Planning Department to develop a recommendation and Summary of Opinion Statement ("**Summary**") regarding the Ulster & Delaware Railroad Corridor between Milepost 10 at Basin Road in West Hurley and Milepost 21.6 at Route 28A in Boiceville, NY ("**Corridor**"). Specifically, HDR was asked to make a recommendation based on our railroad engineering experience and familiarity with the Corridor as to whether it is preferable from the perspective of restoring railroad uses in the future to remove the existing track infrastructure to construct a rail trail, or alternatively, bury the existing track infrastructure.

For background, I am currently the Association Vice President and Rail Section Manager for HDR with more than 35 years' experience in railroad engineering as well as a Licensed Professional Engineer in the State of New York with a Bachelor of Science Degree of Civil Engineering from the University of Pittsburgh, A Master of Science from New York Polytechnic and a Post Graduate Engineers Degree from Columbia University.

Summary Statement/ Recommendation:

As detailed below, it is our recommendation that the County remove the existing railroad infrastructure—including track, ties, and other track materials ("OTM")-- in developing the Ashokan Rail Trail ("ART") rather than bury the track and tie infrastructure for potential future use in building the ART. Based on cost, constructability, drainage considerations, current condition of the track and ties, and other factors, any future restoration of railroad uses on the Corridor is best served by removal of existing track and ties and stabilization of the underlying railroad infrastructure, including repairs to drainage structures, as proposed for the ART development. Burying and then uncovering the existing railroad infrastructure will make restoration of railroad uses on the Corridor more expensive and labor-intensive. It would also make trail construction and restoration of the drainage facilities much more difficult and expensive and make future maintenance of the trail problematic. Finally, leaving deteriorated ties in the corridor are likely to have environmental consequences that should be avoided.

My recommendation is based on familiarity with the Corridor from prior inspection reports and on my experience with all aspects of railroad construction and maintenance. As you know, HDR's Rail Engineer and staff visited and documented the condition of the U&D Corridor between Kingston and Phoenicia, including this segment, in 2015 and 2016 and provided an assessment of the rail infrastructure to the County in reports dated June 6, 2014 and September 21, 2015 ("Condition Reports"). I reviewed the Condition Reports at the time they were produced and certified them as the supervising engineer. For purposes of this Summary, I have conducted a detailed review of the Condition Reports, including the accompanying photographs to re-familiarize myself with the Corridor and the condition of its railroad infrastructure. I have also researched other rail trail corridors to determine whether others have any experience in building trails on top of existing rail infrastructure that would inform my recommendation.

Current Conditions of the U&D Corridor:

As detailed in HDR's Condition Reports from 2015 and 2016, the U&D Corridor along the Ashokan Reservoir does not meet FRA Class I safety standards, the minimum safety standard for any operation of passenger or freight service. We understand that the last freight service on this segment was in the late 1970's, and it appears that for the most part, little or no maintenance of the railroad infrastructure has occurred since that time. HDR's Rail Engineer found and documented that the Corridor was in an advanced state of disrepair from this lack of maintenance, and the railroad infrastructure—including as culverts, bridges, drainage ditches, embankment and right-of-way have numerous locations of complete failure with the majority of the infrastructure evidencing marginal function as to its intended design purpose. In support of these statements I note that during the 2015 and 2016 inspections, HDR's Rail Engineer was unable to record every track defect as the condition of the Corridor was so poor. Many defects were hidden under debris, and the main charge of the inspection was to provide sufficient data to show that the areas that did not meet Class 1 standards. The Rail Engineer sampling throughout the Corridor at regular intervals did document 297 FRA Class I defects (77 Class Specific defects, 120 Non Class Specific). Most importantly for the purpose of this Opinion Statement, the photos and written statements in the Condition Report reveals that approximately 95% of the railroad ties were in an advanced state of decay or missing.

The inspections also detailed a long list of other railroad infrastructure issues in the Corridor. The rail, itself, is misaligned and has surface irregularities in many areas. Tie conditions are very poor, and ballast is no longer even visible in many areas due to build-up of organic materials over a period of decades. Drainage systems have largely failed, with ditches plugged and overgrown with trees, ballast missing (which allows drainage), many culverts heavily deteriorated (including the complete failure of the major culvert at Butternut Creek), and ditch lines that over a period of years have now become wetlands and left the railroad bed saturated. All of these issues are critical factors in weighing the advisability of burying this infrastructure for reuse in the future.

Issues with Burying Rail Infrastructure:

The choice of whether to remove or bury the existing track and ties requires consideration of the impacts both on the trail and future ability to restore the rail that was buried to operating condition. The existing railroad ties throughout the corridor are in an advanced state of decay, which will only accelerate once they are buried. Their continued decay will likely foul trail construction materials resulting in a "wash board" trail surface over a short timeframe causing challenging trail maintenance. Removing the ties and track before constructing the trail allows for removal of the built-up organic material and refreshment of the existing ballast to restore its drainage capabilities. This, along with repair and replacement of other drainage structures, will better preserve the integrity of the rail corridor, and stabilized trail material itself will serve as an improved sub-base for any future track restoration.

Burying track infrastructure is not a typical rail-to-trail conversion practice. We have found no instances of it being used in similar situation or for this length. Leaving the track structure will complicate the installation of the trail as construction equipment will have to avoid damage to the rail, which is nearly impossible in many sections of the narrow corridor. Additionally, burying track and tie makes the correction of drainage issues along the rail gage similarly more difficult as construction of swales, new culverts, and replacement of ballast where washed out will need to be done while maintaining the track in place. Stabilization of the underlying railroad embankment/ bed is best accomplished by removing the track, ties and OTM, excavating the built-up organic materials layers, and re-establishing a functioning drainage system, including new ballast. The rail and OTM can be sold as scrap offsetting trail construction costs and help to offset the cost of disposal for the existing deteriorated ties.

In addition to the issues highlighted above, the following considerations also cause us to discourage burying the existing track materials for future re-use for railroad operations:

- Restoration of existing track to future service after burial will require heavy tie renewal. It is likely that, even after a short time, nearly 100% of the ties will require replacement as few, if any will survive being uncovered and set to final geometry.

- Reestablishment of alignment using the current 100 LB DY rail (which is no longer produced) with 6 hole joints throughout is problematic as it should not be welded without cropping every end due to bolt hole fractures (i.e., not "weld friendly"). The exiting 100 LB rail may require over 3000 welds plus each end being cropped due to 6 hole joints as best practice does not support welding within 9.5" of a bolt hole.

In addition, the condition of the existing rail that already has pitting and flange issues also makes replacement of the rail a better choice from a safety perspective.

- Continuous welded rail (CWR) is **today's** preference for rail corridor restoration. AREMA rail sections sizes 115 and up are the rail sections now used in railroad reconstruction and repair. Railroad ties for this type of rail can be spaced at 24 inches on center versus 19.5 inches common with 100 LB rail sections. Approximately 7000 less railroad ties would be required on the 11.6 mile section of the Corridor using 115 size rail.

- Modern track construction methods have economic and constructability advantages over any restoration attempts of this Corridor that leave the track and ties buried in place. The use of CWR/wood tie track structure on a graded restored ballast system with drainage improvements is likely to be more cost effective from a purely rail standpoint given the amount of ties needed to be replaced, the condition of the ballast and drainage in the corridor, and the type and condition of the rail itself.

- It is not clear how major reconstruction of the Butternut Creek Culvert and Boiceville Bridge could be accomplished without removing the track and tie infrastructure and stabilizing the road bed for construction vehicles. Much of the Corridor is remotely located and narrow, and retention of the existing track would make construction access very difficult and expensive.

- Significant costs will be incurred for trail construction associated as additional fill will have to be brought in over a long narrow corridor. Adding fill to cover the tracks is also likely to cause problems in maintaining trail width as side slopes and shoulder issues will arise on the narrow embankments and drainage issues will occur in the narrow rock cuts.

Conclusion:

Based on our inspection and review of the existing conditions in the Corridor, the Ulster & Delaware Railroad Corridor segment from Milepost 10 at Basin Road to Milepost 21.6 at Route 28A we offer the following:

- The Corridor in its current condition cannot support rail service without major rehabilitation and repair, burying this rail infrastructure will only add to its deficiencies and efforts needed to uncover and re-establish geometry will further add to the problems with the existing track.

- Significant barriers exist to the constructability and maintenance of a trail over the rail that include: removal of organic material now present throughout the existing ballast; restoration and improvements to drainage systems; avoiding damage to the existing rail infrastructure during construction, particularly during placement of fill; and maintaining the trail width and need shoulders on narrow embankments and rock cuts.

- Each of the above factors will significantly increase the costs of trail construction as will the need for additional fill to cover the tracks. Maintenance costs for the trail will rise in both the near and long term as the underlying rail infrastructure deteriorates and shifts with usage.

- Environmental issues will be heightened with the existing ties being left in place.

For all of the reasons discussed above, the County would be best served by removing all existing rail appliances (Rail/Ties/OTM) before the installation the trail based on the cost, constructability and usability of the trail and the feasibility of restoring railroad services at some future date using the existing rail infrastructure. Future restoration of the Corridor to a properly functioning condition will best be accomplished with total replacement of rail/ties/OTM with more currently available materials installed by modern means and methods.

If there are further questions, I can be contacted at (212)-542-6028 or via email: richard.semenick@hdrinc.com.

Sincerely,

Richard C. Semenick, PE
Associate Vice President

October 31, 2017

Mr. Christopher White, Deputy Director
Ulster County Planning Department
244 Fair Street, P.O. Box 1800
Kingston, New York 12402

Re: Alternatives Analysis- Burying Existing Track and Ties along Ashokan Rail Trail

Dear Mr. White:

As part of the engineering design for Ulster County's Ashokan Rail Trail Project, Barton & Loguidice (B&L) has explored and assessed the alternative of constructing the proposed recreational trail directly upon the existing railroad bed consisting of steel rails, wooden ties, and typical stone ballast along the former Ulster and Delaware Railroad corridor. B&L strongly recommends that Ulster County dismiss the alternative of burying of the existing track and ties based on engineering, cost, environmental, trail maintenance, and regulatory considerations. This recommendation also recognizes the fact that the New York City Department of Environmental Protection (DEP) has clearly and consistently indicated it would not approve such an alternative design due to concerns about wetland impacts, erosion, burying of creosote-treated ties, and other concerns.

In general, roadways, trails, sidewalks, and other surfaces require a stable base material, which is vital to the short and long term sustainability of the surface course. Properly designed projects include the removal of organic material and the placement with inorganic construction materials, also known as subgrade material. This material is typically granular and consists of either well graded low clay content soil, or a soil and stone mixture, or as proposed for the Ashokan Rail Trail, crushed stone. In any case, the material should have very low or no organic material.

The section of the U&D railroad track from approximately Basin Road in West Hurley to NY Route 28A in Boiceville is supported by a wooden tie and ballast system. The approximately 35,000+ wooden ties are in various stages of decay with approximately 90 to 95% requiring replacement. Organic (live, dead and decaying) materials have also accumulated on the surface of the ballast and rooted in the upper level of the ballast due to lack of clearing, maintenance and tie replacement for a period of many decades. In many areas, the stone ballast is not visible due to complete coverage by organic materials and vegetation and tree roots have developed into the railroad bed and adjacent drainage ditches.

If the organic materials and wooden ties were buried over, they would continue to deteriorate and undermine the integrity of the trail surface, which is proposed to be compacted crush stone. This process will compromise the supporting base or foundation for the improvements they support, specifically the trail surface. This inadequate foundation will become weaker and compromised, and cracks and depressions in the trail surface will develop. The cracks and depressions will form small drainage paths (called rills) and cause ponding, which will concentrate stormwater flow, induce erosion, and result in the uneven settlement of the trail surface, including potholes. Once this process is started, the erosion will accelerate, and the constructed trail surface will de-stabilize throughout the corridor over time. This process would not likely start in the very early stages (first year) of the trail being open, but would begin a long term maintenance issue that will continue unpredictably for many years along the entire trail length.

The organic material will also become saturated and hold moisture resulting in a cycle of frost heaving, melting and settling, followed by pothole formation. Once this process begins, a more rapid rate of surface degradation, and pothole development will occur and reconstruction of these areas will be required. In areas that are more prone to water collection and frost heave, sections of the rail may be pushed up and create ridges or bumps in the surface resulting in tripping hazards and rough riding and accelerated water damage.

Burying the steel rail and tie system would require a significant volume of new stone materials to be transported in to the project site, which would not otherwise be required under the proposed design plan, which minimizes transport of materials to reduce costs and environmental impacts. The proposed plan utilizes the stone ballast already present as a base for the trail, reducing the amount of stone that is needed to be brought in by approximately 60% or approximately 23,000 cubic yards (cy) when compared to the alternative of burying the track and ties. This reduction in materials alone will save the County $1.3 Million when compared to leaving the tracks and ties in place.

Additionally, burying the existing tracks and ties will reduce the effective width of the trail and the buffer areas adjacent to the trail where it will be very difficult to stabilize and retain materials if the tracks are covered instead of removed. As you are aware, our firm has done a detailed assessment of the existing railroad bed and has proposed in some areas, including high-fill embankment sections, to lower the trail profile to increase the usable width for the trail and reduce the need for protective fencing on side slopes. Any reduction in trail width to accommodate burying the railroad infrastructure (essentially building upon and narrowing the trail prism) would increase the need for safety fencing and eliminate most of the flexibility of shifting and fine tuning the trail to minimize the environmental impacts, which were required by DEP during the design and environmental review process. Such a reduction of width from twelve feet to in some cases five or six would not be in accordance with recommended design standards for multi-use trail and would inevitably create conflicts between bicyclists and pedestrians, potentially creating safety issue for trail users.

The construction of the Ashokan Rail Trail, including the installation of proposed new bridges at Boiceville and Butternut Creek, would be nearly impossible if the existing track and ties were not removed prior to construction and the roadbed rough-graded and stabilized. Access to the project site along the narrow single-tracked railroad corridor, which in some areas is constrained to only 10-12 ft. is already difficult for construction vehicles. During recent pre-bid site visits with prospective construction vendors, many of the firms highlighted the increased costs for all phases of construction because of the remoteness and limited width of the railroad corridor. Leaving in place an already deteriorated and compromised track system would make access by heavy construction equipment much more difficult and/or result in the destruction of the track during transport of equipment and materials. Heavy construction equipment could not traverse the existing track without crushing many of the remaining ties and further damaging the rails and joints, themselves.

It is important to note that there are sections of the existing railroad corridor where it would be impossible to bury the track and ties, due to engineering constraints or regulatory issues. For example, the railroad segment west of the Runge Road Access point where the railroad embankment has sunken for hundreds of yards and the railroad ties have been cribbed or cross-piled to hold the track in place would be very difficult, if not impossible, to bury effectively so that the materials are stabilized without installation of retaining structures. Again, such engineered solutions would dramatically increase the cost of the project while substantially diminishing the safety and usability of the new trail. During our environmental investigations and subsequent negotiations on wetland delineations with the DEP, an eight-hundred (800) ft. segment of the former railroad bed was delineated as a wetland under federal jurisdiction. This railroad segment, which developed into wetland over a period of decades during which the drainage ditches and culverts were not maintained and cleared, must now be avoided entirely and new fill materials could not be placed over the existing tracks without obtaining additional permits and incurring expensive wetland mitigation requirements. I would also note that requiring tracks to be buried and retained for future use would be in direct contradiction to the bridge plans for Butternut Creek and especially, Boiceville, where the bridge will be raised by approximately 7 ft.

As the County is aware, B&L staff have done extensive field investigation, survey and mapping and worked diligently with the DEP staff to develop, revise and finalize plans that protect the drinking water supplies for the City of New York while also ensuring the recreational trail is designed to modern standards, including being fully accessible to persons with disabilities. As you know, the design has made accommodations to avoid and mitigate potential wetland impacts, including narrowing of shoulders and horizontal and vertical shifts to the trail to avoid wetlands and watercourses. Adding materials on top of the existing track infrastructure would in many cases undermine or negate the mitigative steps that we have taken to avoid wetland areas and reduce risk of erosion. For instance, in the State-delineated wetland area west of Shokan Station, we have narrowed the trail slightly and eliminated shoulder to avoid the adjacent wetland. Building up materials in this and other areas would unnecessarily require additional features, such as retaining walls to hold the materials in place on the sides so that they do not encroach upon the wetlands. These areas are also simply too narrow to appropriately slope materials without additional retention elements.

Both the County and DEP have made adjustments to the proposed design, and after nearly eighteen months of investigation, consultation, review and revisions, the trail plans accommodate the needs and interests of both parties. As you know, the DEP's approval of the final trail plans requires the removal of all track and ties, with the off-site disposal of the thousands of creosote treated ties to a licensed facility. Recognizing the importance of the County's project to the DEP's Ashokan Reservoir, it is understandable that such requirements were included by DEP. We believe that the currently proposed design has struck a reasonable and pragmatic balance between protecting water quality and developing a world-class recreational trail. Any proposals to bury the track and ties would undermine several years of detailed negotiations and work with DEP and more than likely result in the Ashokan Rail Trail not being approved by DEP or constructed.

With approximately 90 to 95% of the existing ties not suitable for reuse and the railroad track itself functionally obsolete for future uses, burying the track would serve no railroad viable purpose in the future while significantly detracting from the trail or frankly, precluding the construction of the trail entirely. In contrast, the proposed stone trail structure for the project is a viable and stable base course on which a rail system could be reinstalled if the County Legislature were to determine rail use should be restored at some point in the future. For this reason and the reasons discussed above, it is not recommended that the existing rail or tie system remain in place.

Sincerely,

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BARTON & LOGUIDICE, D.P.C.