# Phase IA Archaeological Assessment of the SunEast Flat Creek Solar Project, Towns of Root and Canajoharie, Montgomery County, New York

(Project Review # 22PR01523)

June 2023 Revised December 2023

# SunEast Flat Creek Solar

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## **Management Summary**

**State and Federal Permits Needed**: Office of Renewable Energy Siting (ORES) Chapter XVIII, Title 19 of NYCRR Part 900 Section 94-c.

Phase of Survey: Phase IA Assessment

**Location of Project**: SunEast Flat Creek Solar LLC (Applicant) proposes the construction of the SunEast Flat Creek Solar Project (Project or Project Area) in the Towns of Root and Canajoharie, Montgomery County, New York. The Project as currently proposed consists of an approximately 300-megawatt (MWac) photovoltaic (PV) solar energy generation facility (Facility). The Applicant is assessing available land on approximately 4,394 acres of private land owned by multiple participating landowners (Project Area) (Figure 1). Project facilities will include commercial-scale solar arrays, access roads, buried (and possibly overhead) electric collection lines, and electrical interconnection facilities. The Applicant intends to interconnect to the LS Power Grid, New York Corporation's 345 kV transmission line (currently in construction), located directly adjacent to the Project.

#### Survey Area: 4,394 acres Phase IA

**USGS 7.5 Minute Quadrangle Maps:** Fort Plain, NY; Canajoharie, NY; Randall, NY; Sprout Brook, NY; Sharon Springs, NY; Carlisle, NY

**Results of Literature Review:** A review of the New York Cultural Resource Information System (CRIS) lists 9 cultural resource management (CRM) studies completed within 1 mile of the Project Area. Survey 20SR00435, a Phase IA/IB archaeological investigation of a 93-mile electric transmission corridor performed by Tetra Tech, Inc. in 2020 bisects the Project Area. Two other CRM reports overlap the Project Area. Seventeen archaeological sites/areas are known in the Project Area. Many of these sites/areas date to the late Precontact/Contact/Early Historic period. Forty-five additional archaeological sites lie within 1-mile of the Project Area. None of the NRHP listed properties fall within the Project Area.

**Results of Desktop Sensitivity Assessment:** Figures 9 and 9A-9J show the results of the desktop sensitivity for the Project parcels. The subsequent walkover survey and refined sensitivity assessment were based on the Project APE shown in Figure 10.

**Results of Walkover Survey and Refined Sensitivity Assessment:** Walkover survey of the Project APE confirmed that 23 locations are sensitive for Precontact period resources and identified 1 new location with Precontact period sensitivity. Seven locations identified in the desktop review were confirmed as sensitive for Historic period resources and 4 new locations with Historic period sensitivity were identified during walkover survey.

#### Conclusion:

The Phase IA archaeological assessment identified 24 locations within the Project APE with sensitivity for Precontact Period cultural resources. Additionally, 11 locations were identified within the Project APE with sensitivity for Historic Period cultural resources. Phase IB archaeological investigations are recommended for any portion of these archaeologically sensitive areas that will

be impacted by ground disturbing Project activities. These data will be used with the Project design plans to determine the Project APE and the scope of Phase IB investigations. Phase IB investigations will use a combination of subsurface testing and pedestrian survey of recently disced agricultural fields to determine if archaeological sites are present within the Project APE.

## **1.0 Project Description and Introduction**

SunEast Flat Creek Solar LLC (Applicant) proposes the construction of the SunEast Flat Creek Solar Project (Project or Project Area) in the Towns of Root and Canajoharie, Montgomery County, New York. The Project as currently proposed consists of an approximately 300-megawatt (MWac) photovoltaic (PV) solar energy generation facility (Facility) (Figure 1). The Applicant is assessing available land on approximately 4,394 acres of private land owned by multiple participating landowners (Project parcels) (Figure 1). Project facilities will include commercial-scale solar arrays, inverters and pads, access roads, buried (and possibly overhead) electric collection lines, and electrical interconnection facilities.

This report presents the results of a Phase IA archaeological resource assessment. This assessment was conducted in accordance with guidelines established by the New York Office of Parks, Recreation and Historic Preservation (OPRHP) and *the Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations published by the New York Archaeological Council (2000).* The cultural resource Phase IA desktop assessment is for the entire 4,394-acre Project Area. The walkover survey and subsequent refined sensitivity assessment was based on the current Project area of potential effect (APE). The APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36CFR §800.16(d)). With regards to known and potential archaeological resources, this area is usually referring to the direct effects APE. For this report, we consider the direct effects APE is the area where the Project will cause ground disturbance or may potentially cause ground disturbance. Therefore, if a portion of an archaeologically sensitive area will not be impacted by ground disturbing activities associated with the Project, it is not considered part of the APE.

A review of the environmental setting follows this introduction. The environmental setting is followed by a literature review using New York Cultural Resource Information System (CRIS) data and other sources. The archaeological sensitivity models used for this assessment area are offered after the literature review and are followed by a section presenting the results of the desktop archaeological sensitivity assessment. The next section offers a refinement of the desktop sensitivity assessment based on the result of a walkover survey of the Project Area. The final section contains a summary and conclusion of the Phase IA assessment to guide Phase IB investigations based on future Project design plans. All figures are presented at the end of this report following the References Cited.

## 2.0 Environmental Description

The Project Area resides in the Eastern Great Lakes Lowlands Level III Ecoregion (83) and Mohawk Valley level IV Ecoregion (83f) (Bailey 1995; Bryce et al., 2010; NYS 2021). The Mohawk Valley is a broad lowland region extending east-west in central New York State, wedged between the Adirondacks to the northeast and the Allegheny Plateau to the southwest along the Mohawk River, which flows east into the Hudson River and lies immediately north of the Project Area. Flat Creek, a tributary to the Mohawk River, flows through the Project Area.

The Mohawk Valley region is a broad, irregular valley with significant variation in topography. It is underlain by limestone and shale, rock types much more easily erodible than those of the nearby mountainous regions. When glaciers receded from this area, an overflow from Glacial Lake Iroquois flowed through this area, eroding the valley floor and depositing it to the east in what is now the Hudson Valley. The floodplain of the Mohawk River is very flat, but quite narrow in regions, deeply eroded from the surroundings. The rest of the valley contains rolling hills, river terraces, and low mountains. Soils here are loamy and nutrient-rich, well-suited to agriculture.

Based on the desktop analysis, land use within the Project Area is primarily agriculture consisting of cultivated crops, hay, and pastureland. Some undeveloped wooded areas also occur within the Project Area including non-contiguous forested land, open water, and an electric transmission line which cuts across the southern portion of the Project Area from east to west and will be the interconnection for the completed project (Figure 2).

The northern portion of the Project Area is bounded by the Mohawk River. Lasher Creek flows to the east forming the boundary of Little Nose. Flat Creek is located to the west of the Little Nose and bisects the Project Area. Wessel Hill sits on the southern border of the Project Area. Carlisle Road and Blaine Road bound the Project on the west (Figure 1) and Canajoharie Creek is located approximately 1 mile to the west of the Project.

For ease of reporting, we divided the Project Area into 9 sub-areas (Area A – Area I) (Figure 3). These areas are summarized in Table 1. A transmission line bisects the central part of the Project Area from east to west (Figure 2).

Sub-area Designation	General Location	Approximate Size (acres)	
Area A	Area A consists of 4 parcels located in the northwest portion of the Project: south of Sprakers Road, east of Cunningham Road, and north of Carlisle Road.	648	
Area B	Area B is located to the south and east of Area A. It consists of 4 parcels located on the western side of Lookout Road and north of Carlisle Road. Flat Creek is located along the eastern side of Lookout Road, adjacent to the Project Area.	357	
Area C	Area C is located immediately south of Area B. It consists of 12 parcels in the western portion of the Project. The area contains parcels on the northeast and southwest sides of Carlisle Road. Flat Creek passes through the 4 parcels located northeast of Carlisle Road.	495	
Area D	Area D is located immediately east and south of Area C. It consists of 11 parcels located in the southern central portion of the Project Area. The area north of Carlisle Road is located between Rappa Road and Hilltop Road. The area south of Carlisle Road extends	509	

Table 1	<b>Summary</b>	of Sub-areas	for archaeological	sensitivity assessment
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Sub-area Designation	General Location	Approximate Size (acres)
	south past Conway Road. Flat Creek crosses through one parcel located just north of Carlisle Road.	
Area E	Area E is located immediately east of Area D. It consists of 5 parcels and is located north of Carlisle Road and west of Flat Creek Road. Flat Creek crosses through the southern parcel in this area.	434
Area F	Area F is located immediately south of Area E and east of the southern portion of Area D. It consists of 5 parcels and is located south of Carlisle Road with Maple Town Road running north south through the area. Flat Creek is located along the southeastern edge of the area.	460
Area G	Area G is located immediately east of Area E and Area F. It consists of 5 parcels and is located north and east of Carlisle Road and east of Flat Creek Road extending north to Flanders Road. The majority of the area has Flat Creek and associated wetlands throughout.	455
Area H	Area H is located to the north and east of Area G. It consists of 7 parcels and is located just south of Currytown extending west to Flat Creek Road. A small stream and Lasher Creek pass through the area. Darrow Road bisects the area and Flanders Road is located to the south.	561
Area I	Area I is located immediately north and west of Area H and south and west of Area A. It consists of 2 parcels in the northern central portion of the Project Area. The area is bisected by State Highway 162 and has Lasher Creek running through the southern parcel.	176
Area J	Area J is located in the northeastern most portion of the Project Area near Sparkers. It includes 2 parcels. The southern portion of the Area is bisected by Sloanvilles Road or Route 162. Monk Road runs along and through the northern portion of the Area.	299

## Table 1. Summary of Sub-areas for archaeological sensitivity assessment

## 2.1 Bedrock

The majority of the Project Area (Area A – Area I) is underlain by bedrock mapped as Middle Ordovician Canajoharie Shale, which is one of several black shales in a belt of autochthonous Paleozoic rocks (exclusive of the Taconic sequence) (Canajoharie Shale (NYOc;1) (usgs.gov)). Some areas are mapped as Utica Shale which is also part of the same Lorraine, Trenton, and Black River Groups (Fisher, Isachsen and Rickard 1970). Both are sedimentary rock and not well suited for use by Native people for the manufacture of stone tools.



The northern portion or Area J of the Project Area is underlain by bedrock mapped as Lower Ordovician Beekmantown Group which is composed of (major) Tribes Hill Formation-limestone, dolostaone; Fort Cassin Formation-limestone, dolostone; Fort Ann Formation-limestone, dolostone; Cutting Formation- limestone at top with (incidental) Cutting Formation - local chert and Cutting Formation – siltstone at the base (Beekmantown Group (NYObk;2) (usgs.gov)). The chert portions of this formation may be suitable for the manufacture of the Precontact period flaked stone tools.

## 2.2 Surficial Geology and Soils

The topography of the Mohawk River Valley was extensively modified by glacial scouring and deposition resulting in surficial deposition composed primarily of glacial till. This is true for the eastern portion of the Project Area. The central, western and northern portions of the Project Area (Area B – Area I) contain surficial deposits left by pro-glacial lakes including lacustrine sand and lacustrine delta. The northern section (Area A and Area J) also has areas of surficial bedrock (Caldwell and Dineen 1987).

The Natural Resource Conservation Service (NRCS) has mapped over 50 soil units within the Project Area. The most abundant soil units represented are Darien silt loam, Ilion silt loam, and Lansing silt loam. These soils are derived from glacial till deposits. Lesser amounts of glaciofluvial and glaciolacustrine derived soils are also present, as well as some alluvium along the edges of Flat Creek (http://websoilsurvey.sc.egov.usda.gov). A detailed table of the NRCS mapped soil units within each Area is provided in the Section 6.0 "Results of Walkover Survey and Refined Sensitivity Assessment". Maps showing the distribution of the soil units within each Area are provided in Figures 4A - 4J.

## 2.3 Vegetation

The Project Area lies within the Eastern Temperate Forests Level I Ecoregion; Mixed Wood Plains Level II Ecoregion; Eastern Great Lakes Lowlands Level III Ecoregion; and Mohawk Valley Level IV Ecoregion (Bailey 1995; Bryce et al., 2010; NYS 2021). The Mohawk Valley Level IV Ecoregion is characterized by a broad, irregular valley containing rolling hills, river terraces, and low mountain topography (Bryce 2010).

According to the 2016 National Land Cover Database (NLCD), the predominant land cover type within the Project Area is hay/pasture and cultivated crops. There are lesser amounts of mixed forest and only a very small portion, less than 0.1% of the Project, is comprised of developed land. No open water is located within the Project Area.

## 3.0 Literature Review

Archaeologists have divided the Precontact period culture history of New York into 3 general periods: Paleoindian (12,000 to 9500 years before present [BP]); Archaic (9500 to 3000 BP); and Woodland (3000 to 500 BP). These periods are further subdivided into the Early (9500 to 7000 BP), Middle (7000 to 5500 BP) and Late (5500 to 3000 BP) Archaic periods and the Early (3000 to 1700 BP), Middle (1700 to 1200 BP) and Late (1200 to 500 BP) Woodland periods. The Late

Woodland period ends with European contact which ushers in the Contact period (500 to 300 BP) and finally, the Historic period extends from 300 BP to present.

The Mohawk Valley is a very sensitive area for Precontact period archaeological resources in New York State owing to its rich and diverse floral, faunal and lithic resources (Higgins, Morgane and Brown 2012). Precontact period archaeological sites in the Mohawk Valley span the entire Precontact period from the Paleoindian period through the Contact period. Higgins, Morgane and Brown (2012) offer a general overview of the Precontact period culture history of the region.

A review of CRIS lists 9 cultural resource management (CRM) studies completed within 1 mile of the Project Area (Table 2). Survey 20SR00435, a Phase IA/IB archaeological investigation of a 93-mile electric transmission corridor performed by Tetra Tech, Inc. in 2020 bisects the Project Area. This report also provides a good general review of the Precontact period chronology (Jacoby et al. 2020:4-1 - 4-5). Two other CRM reports overlap the Project Area (Table 2).

Table 2.	Previous	Cultural	Resource	Studies	Conducted	within	1-mile	of the	Project
Area.									

<b>OPRHP</b> #	Title	Authors		
	Within Project Area			
20SR00397	Historic Architecture Investigation, Marcy to New Scotland Upgrade Project, Oneida, Herkimer, Montgomery, Schenectady and Albany Counties, New York	Tetra Tech, Inc.		
18SR56193	Western Montgomery County Historic Resources Survey	Jessie A. Ravage		
20SR00435	Phase IA/IB Archaeological Investigations, Marcy to New Scotland Upgrade Project, Oneida, Herkimer, Montgomery, Schenectady, and Albany Counties, New York	Tetra Tech, Inc.		
Within 1-Mil	e of Project Area	a 64.5.		
00SR50864	Stage 1 Cultural Resource Survey, Lottman Wetland Restoration Project, Towns of Canajoharie, Root, Montgomery County, New York	Public Archaeology Facility		
99SR61969	Cultural Resources Reconnaissance Survey Report, PIN 2029.50.121 / BIN 1-00285-0, NYS 5S over Flat Creek, Sprakers, Town of Root, Montgomery County, New York			
13SR62371	Phase IA/IB Cultural Resource Survey Esh EQIP Project, Town of Root, Montgomery County, New York	Birchwood Archaeological Services		
15SR00323	D323 Phase 1 Archaeological Survey, The University at Albany Mesonet Project (Batch #1, Part 2) (#8/Mead Farm)			
16SR00438	Phase 1 Cultural Resources Investigation for The Proposed Samuel B. Esh Drainage System Environmental Quality Incentives Program (EQIP) Project, Town of Root, Montgomery County, New York 15PR05602	Panamerican Consultants, Inc.		
09SR59117	NYSM			
00SR50737	Phase IB Archaeological Field Reconnaissance, Riverfront Park Improvements, Canajoharie Canal Corridor Initiative, Village of Canajoharie, Montgomery County, NY	Hartgen Archaeological Associates, INC.		



Table 2.	Previous	Cultural	Resource	Studies	Conducted	within	1-mile	of the I	Project
Area.									

<b>OPRHP</b> #	Title	Authors
16SR00583	Cultural Resource Reconnaissance Survey Report PIN 2805.67.101 P.R. # 16PR01499 Replacement of Culvert CIN250055 NYS Route 10 Town of Canajoharie (MCD #05702) Montgomery County, NY	Hartgen Archaeological Associates, INC.
16SR00657	Phase IA and Phase B Archaeological Investigations, Canajoharie Central School District Solar Project	SolarCity Corp.
99SR50736	Phase IA Archaeological Sensitivity Assessment, Canajoharie Corridor Project, Village of Canajoharie, Montgomery County, NY	Hartgen Archaeological Associates, INC.
99SR61969	Cultural Resources Reconnaissance Survey Report, PIN 2029.50.121/ BIN 1-00285-0, NYS 5S over Flat Creek, Sprakers, Town of Root, Montgomery County, NY	NYSM
22SR00083	Phase IA/IB Archaeological Investigations Central East Energy Connect Project (Formerly the Marcy to New Scotland Upgrade Project) Addendum 3 – Autumn 2021 Supplementary Survey Segment IV: Warren Road, Germen Flatts, to Princetown Substation, Herkimer, Montgomery, and Schenectady Counties, NY	
22SR00229	Phase IB Supplementary Archaeological Survey, Spring 2022 Addendum 4 – Letter Report Portions of Segment III and IV, Town of Frankfort, Herkimer County, to Town of Florida, Montgomery County, NY	Tetra Tech, Inc.

# 3.1 Previously Recorded Archaeological Sites in the Project Vicinity















Table 3. Previously Recorded Archaeological Sites within 1-mile of the Project Area.

1 1		



Site Number	Site Name	Site Type	NRHP Status	Distance & Direction (Approximate)

Table 3. Previously Recorded Archaeological Sites within 1-mile of the Project Area.



Site Number	Site Name	Site Type	NRHP Status	Distance & Direction (Approximate)
المحص				
		<u>1</u>		

## Table 3. Previously Recorded Archaeological Sites within 1-mile of the Project Area.



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Site Number	Site Name	Site Type	NRHP Status	Distance & Direction (Approximate)
_				

## Table 3. Previously Recorded Archaeological Sites within 1-mile of the Project Area.

A total of 89 historic structures (Table 4), and 7 NRHP listed properties (Table 5) occur within 1 mile of the Project Area. None of the NRHP listed properties fall within the Project Area. Four of the historic structures occur within the Project Area including the W Devendorf Barn (05709.000090) which has been demolished and is not considered eligible for listing on the



NRHP. The remaining 3 structures are unnamed houses and their eligibility for listing on the NRHP is unknown (Table 5).

OPRHP #	Address	Name	Distance & Direction (Approximate)	NRHP Status
Within Project	Area			
05702.000115	376 Sprakers Rd, Canajoharie	Unnamed	Within Project Area	Undetermined
05702.000 <mark>11</mark> 6	140 Jump Rd, Canajoharie	Unnamed	Within Project Area	Undetermined
05709.000090	Flat Creek Rd, Root	W Devendorf Barn	Within Project Area	Not Eligible – Demolished
05709.000091	142 Flat Creek Rd, Root	Unnamed	Within Project Area	Undetermined
Within 1-Mile o	f the Project Area	Sector Sector		
05709.000104	158 Monk Rd, Root	Unnamed	.05 miles northwest	Undetermined
05709.000105	212 Monk Rd, Root	Unnamed	.01 miles north	Not Eligible
05709.000106	130 Indian Dr, Root	Unnamed	.19 miles west	Undetermined
05709.000149	206 Monk Rd, Sprakers	Unnamed	.01 miles north	Not Eligible
05709.000152	Rappa Road, Canajoharie	Rappa Road Cemetery	Adjacent to project	Eligible
05702.000020	641 Mapletown Rd, Canajoharie	Unnamed	0.85 miles south	Undetermined
05702.000052	Mapletown Rd & Blaine Rd, Canajoharie	Mapletown Cemetery	0.99 miles northeast	Eligible
05702.000053	Blaine Rd, Canajoharie	Demolished- Dutch Reformed Church	1 mile west	Not Eligible
05702.000054	563 Mapletown Rd, Canajoharie	Unnamed	0.95 miles west	Undetermined
05702.000055	611 Mapletown Rd, Canajoharie	Unnamed	0.85 miles south	Undetermined
05702.000059	141 Flannigan Rd, Canajoharie	Unnamed	0.69 miles west	Not Eligible
05702.000094	279 Carlisle Rd, Canajoharie	Unnamed	0.70 miles north	Not Eligible
05702.000095	261 Blaine Rd, Canajoharie	Unnamed	0.18 miles west	Not Eligible
05702.000114	434 Sprakers Rd, Canajoharie	Unnamed	0.64 miles north	Undetermined
05702.000118	534 Sprakers Rd, Canajoharie	Unnamed	0.45 miles west	Undetermined
05702.000129	194 Carlisle Rd, Canajoharie	Unnamed	0.43 miles west	Not Eligible

Table 4.	<b>Historic Structures</b>	located within	1-mile of the	Project Area.
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OPRHP #	Address	Name	Distance & Direction (Approximate)	NRHP Status
05702.000143	386 Sprakers Rd, Canajoharie	Unnamed	0.75 miles north	Not Eligible
05702.000165	518 Sprakers Rd, Canajoharie	Unnamed	0.52 miles west	Undetermined
05702.000205	416 Sprakers Rd, Canajoharie	Norman W. Countryman Barn	0.70 miles north	Undetermined
05708.000004	Route 5, Palatine	Spraker Inn	0.47 miles north	Not Eligible – Demolished
05708.000019	209 Brower Rd, Palatine	Unnamed	0.62 miles north	Undetermined
05708.000154	135 McKinley, Palatine	Unnamed	0.59 miles north	Not Eligible
05708.000155	288 McKinley, Palatine	Unnamed	0.73 miles north	Not Eligible
05708.000156	289 McKinley Rd, Palatine	Unnamed	0.76 miles north	Not Eligible
05708.000234	NYS Route 5, Fonda	BIN 1002530	0.34 miles north	Not Eligible
05709.000016	824 Carlisle Rd, Root	Unnamed	0.01 miles south	Not Eligible
05709.000018	336 Darrow Road, Root	Unnamed	0.33 miles west	Not Eligible
05709.000021	108 Lynk Street, Root	Unnamed	0,37 miles west	Undetermined
05709.000024	Kings Rd, Root	Van Buren Residence	0.28 miles west	Not Eligible – Demolished
05709.000028	Carlisle Rd, Root	Folmsbee's Hotel & Store Flat Creek	0.04 miles east	Not Eligible – Demolished
05709.000030	1067 Carlisle Rd, Root	Root Town Hall	0.01 miles east	Undetermined
05709.000032	555 Darrow Road, Root	Unnamed	0.52 miles southeast	Undetermined
05709.000033	602 Darrow Road, Root	Unnamed	0.54 miles southeast	Not Eligible
05709.000035	181 Becker Rd, Root	Wessel Hill School	0.98 miles south	Not Eligible – Demolished
05709.000036	393 Darrow Road, Root	Unnamed	0.08 miles south	Not Eligible
05709.000037	Mapletown Rd, Root	Folmsbee (Kromhout Res)	0.47 miles west	Not Eligible – Demolished
05709.000038	835 Mapletown Rd, Root	Unnamed	0.53 miles south	Undetermined

Table 4. Historic Structures located within 1-mile of the Pro	ject Area.
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OPRHP #	Address	Name	Distance & Direction (Approximate)	NRHP Status
05709.000039	Mapletown Rd, Root	J. Folmsbee Barn	0.47 miles west	Not Eligible – Demolished
05709.000040	Carlisle Rd, Root	Burns	0.06 miles east	Not Eligible – Demolished
05709.000043	Carlisle Rd, Root	Flomsbee Storage Barn	0.08 miles east	Not Eligible – Demolished
05709.000049	713 Mapletown Rd, Root	Unnamed	0.64 miles southwest	Undetermined
05709.000053	446 Rappa Rd, Root	Unnamed	.02 miles west	Undetermined
05709.000055	797 Mapletown Rd, Root	Unnamed	0.65 miles south	Undetermined
05709.000060	1021 Carlisle Rd, Root	Unnamed	0.02 miles north	Undetermined
05709.000071	829 NY 162, Root	Currytown Reformed Church	0.04 miles north	Undetermined
05709.000081	Carlisle Rd, Root	True Dutch Church	0.02 miles south	Undetermined
05709.000082	Carlisle Rd, Root	Link's Tavern	0.08 miles west	Undetermined
05709.000083	486 Flat Creek Rd, Root	Unnamed	0.03 miles east	Undetermined
05709.000084	1084 Carlisle Rd, Root	Unnamed	0.09 miles north	Undetermined
05709.000085	499 Flat Creek Rd, Root	Unnamed	0.06 miles east	Undetermined
05709.000086	498 Flat Creek Rd, Root	Unnamed	0.04 miles east	Eligible
05709.000087	1165 Mapletown Rd, Root	Unnamed	0.02 miles north	Eligible
05709.000088	1226 Carlisle Rd, Root	Unnamed	0.02 miles west	Not Eligible
05709.000089	1209 Carlisle Rd, Root	Unnamed	0.01 miles south	Not Eligible
05709.000092	119 Fish and Game Club Rd, Root	Unnamed	0.10 miles east	Undetermined
05709.000093	588 NY 162, Root	Unnamed	0.14 miles north	Undetermined
05709.000094	244 Hilltop Rd, Root	Unnamed	0.67 miles southwest	Not Eligible
05709.000097	410 Hilltop Rd, Root	Unnamed	0.14 miles north	Undetermined
05709.000098	110 Sprakers Hill Rd, Root	Unnamed	0.10 miles northwest	Not Eligible
05709.000099	116 Sprakers Hill Rd, Root	Unnamed	0.03 miles northwest	Undetermined
05709.000100	104 Monk Rd, Root	Unnamed	0.03 miles northwest	Not Eligible
05709.000101	108 Monk Rd, Root	Unnamed	0.03 miles northwest	Undetermined

## Table 4. Historic Structures located within 1-mile of the Project Area.



OPRHP #	Address	Name	Distance & Direction (Approximate)	NRHP Status
05709.000103	114 Monk Rd, Root	Unnamed	0.03 miles northwest	Not Eligible
05709.000107	129 Mohawk St, Root	Unnamed	0.22 miles northwest	Undetermined
05709.000108	119 Clinton St, Root	Unnamed	0.22 miles north	Not Eligible
05709.000109	117 Clinton St, Root	Unnamed	0.22 miles north	Not Eligible
05709.000110	109 Clinton St, Root	Unnamed	0.22 miles north	Not Eligible
05709.000111	112 Clinton St, Root	Unnamed	0.22 miles north	Not Eligible
05709.000112	5060 NY-5s, Root	Unnamed	0.22 miles north	Undetermined
05709.000113	565 Sprakers Rd, Root	Unnamed	0.17 miles northwest	Undetermined
05709.000114	571 Sprakers Rd, Root	Unnamed	0.17 miles northwest	Undetermined
05709.000115	5057 NY 5S, Root	Unnamed	0.22 miles northwest	Not Eligible
05709.000116	5070 NY 5S, Root	Unnamed	0.22 miles north	Undetermined
05709.000117	112 Sprakers Hill, Root	Reformed Church	0.0 miles northwest	Undetermined
05709.000118	558 Sprakers Rd, Root	Unnamed	0.20 miles northwest	Undetermined
05709.000134	NY 5S, Root	BIN 1-00285-0	0.22 miles northwest	Undetermined
05709.000140	Carlisle Road, Root	BIN 3309910	0.01 miles east	Undetermined
05709.000147	110 Clinton St, Root	Unnamed	0.22 miles north	Not Eligible
05709.000150	181 Lynk Street, Sprakers	Carr Farmhouse	0.38 miles east	Eligible
05709.000151	181 Lynk Street, Sprakers	Carr Farm Hay Barn	0.37 miles east	Eligible
05709.00015	181 Rural Grove Road, Root NY	Unnamed	0.87 miles east	Not Eligible
05709.000159	159 Rural Grove Road, Root	Unnamed	0.90 miles east	Not Eligible
05709.000160	1123 Brand Road, Root	Unnamed	0.95 miles east	Not Eligible
05709.000161	1125 Brand Road, Root	Unnamed	0.94 miles east	Not Eligible
05709.000163	C2500040 – Route 5S, Root	Unnamed	0.04 miles north	Not Eligible

## Table 4. Historic Structures located within 1-mile of the Project Area.

## Table 5. NRHP-listed Historic Properties within 1-mile of the Project Area.

NRHP # or OPRHP #	Structure(s)	Date	Name	Address
14NR03692	563 contributing	1905-1963	New York State Barge Canal Historic District	Waterford to Tonawanda, Whitehall, Oswego and Waterloo



NRHP # or OPRHP #	Structure(s)	Date	Name	Address
90NR01534		ca. 1826	Montgomery County Poor Farm	4934 State Route 5, Fonda NY
05708.000091		ca. 1899	Montgomery County Farm	4934 State Route 5, Fonda NY 12068
05708.000092	1	Prior to 1853	Schenk Dutch Barn - Country Farm Barn	4934 State Route 5, Fonda NY 12068
05708.000233	1	Prior to 1853	Van Wie Farmstead	269 Brower Rd, Palatine NY
05708.000242			Montgomery County Poor Farm Cemetery	State Route 5, Fonda NY
05708.000243	1		Montgomery County Poor Farm Workshop	4934 State Route 5, Fonda NY

Table 5. NR	<b>HP-listed Hist</b>	toric Properties	within 1	-mile of the	Project Area.
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#### 3.2 Summary of National Register of Historic Places listed Properties within 1mile of the Project Area

Four of the 7 NRHP-listed properties located within 1-mile of the Project Area relate to the Montgomery County Poor Farm (90NR01534). The original Montgomery County Farm (05708.000091) belonged to the Schenck family for at least 2 generations and included a spring-fed reservoir, creek, and cemetery as well as houses on both sides of the creek. The farm was sold to the county to care for the poor in 1899. The Schenk Dutch Barn - Country Farm Barn (05708.000092) was built prior to 1853 and was part of the farm sale. The Montgomery County Poor Farm Workshop (05708.000243) is the other property associated with the Montgomery County Poor Farm. Two NRHP-listed properties are associated with the Van Wie Farmstead. Structure 05708.000233 is one of two similar "Spencer houses" that were built close together by relatives prior to 1853. Spencer Barn (05708.000021), a large Dutch barn, was built by A. Van Wie before 1853 and is associated with the farmstead.

The final NRHP-listed property, the New York State Barge Canal (14PR03692), includes 155 contributing buildings and 397 contributing structures dating primarily between 1905 and 1963. The New York State Barge Canal is a state-owned, 20<sup>th</sup> century network of canals, canalized rivers, and lakes built to allow large commercial and pleasure vessels to pass from the Atlantic Ocean to the Great Lakes. Originally constructed between 1905-1918, this waterway is a direct descendant of the canals first built in New York State during the 1820s. The Barge Canal was designed for self-propelled vessels, barges towed by tugboats, or motorized canal boats, and, therefore, did not require the towpaths of earlier canals. The Canal has 57 locks ranging from 6 to 40 feet allowing passage of vessels up to 300-feet long with a 12-foot draft. The system remains in operation with most of its original early 20<sup>th</sup> century structures and machinery in service. The New York State Barge Canal is a nationally significant work of early 20<sup>th</sup> century engineering and construction that impacted transportation and maritime business across the eastern third of the US for almost half a century. The Canal's period of significance is defined as beginning with the



initiation of canal construction in 1905 and extending through its last large-scale improvements in 1963 (information taken from NRHP inventory form).

# 3.3 General Overview of the Historic period in Montgomery County and the Towns of Canajoharie, Root and the Hamlet of Sparkers

The area that would become Montgomery County remained populated by the Mohawk tribe throughout the mid-seventeenth century. Originally part of the Dutch colony of New Amsterdam, the region was not settled by Europeans until the mid-eighteenth century. The first European settlers in the area included Palatine Germans in the 1720s and 1730s and Scots-Irish immigrants in the mid-18<sup>th</sup> century. The economy of the area during that time was primarily subsistence agriculture with emerging industry. European settlers utilized the American Indian trails that crisscrossed the area to further settlement and for trade as well as conflict during the French and Indian and Revolutionary Wars (TRC 2021).

After the Revolutionary War, Tyron County was renamed Montgomery County to honor General Richard Montgomery, who died trying to capture the city of Quebec during the Revolutionary War. The Mohawk River Valley functioned as the central trade route between the Atlantic Ocean and the interior of North America via the Great Lakes. Because the only natural gap in the Appalachian Mountains is in Montgomery County at Canajoharie, the county was strategically important for transportation and westward advancement. Transportation improvements, particularly railroads and canals, helped further population and economic advancement (TRC 2021).

In 1808, the New York Legislature funded a survey that would eventually lead to the construction of the Erie Canal from 1817 - 1825. The canal helped moved products and people through the area and spurred industrialization and immigration in the Mohawk Valley. New York Central Railroad was constructed through the Mohawk Valley in the mid-19th century further increasing the industrial appeal of the region. While agriculture remained common in the countryside, the area surrounding the Mohawk River saw increasing industrialization throughout the nineteenth century (TRC 2021).

Agriculture remains an important part of the economy of Montgomery County. Farms, orchards, and dairies operate throughout the county, supporting a growing agritourism industry. Other important industries include construction, manufacturing, health care, and education. The Erie Canal continues to operate, with an increasing focus on historic tourism and recreational use (TRC 2021).

At the time of contact with Europeans, the Project Area was home to the Canajoharie tribe of the Mohawk nation. French Jesuit missionaries made the first contact with Native people in the area around 1642. In 1711, Queen Ann of Great Britain gave the German Palatines permission to settle the Hudson Valley. These immigrants settled first along the Hudson and then moved westward to Canajoharie where they settled along the Canajoharie Creek (Child 1870: 66-67 and Farquhar 2004:33 in Higgins, Morgane and Brown 2012:19). The town of Canajoharie was established in 1788 but was later divided to form the towns of Minden (1798) and Root (in part, 1823). The

Village of Canajoharie was formed in 1829 and consisted of the northern part of the town on the south side of the Mohawk River (Beers 1878).

The following passage about the history of the Town of Sprakers was transcribed from The History of Montgomery County and Fulton Counties, N.Y., by F.W. Beers & Co., 1878. Sprakers is a hamlet located in the northwest corner of Root.

"SPRAKER'S BASIN - Among the early settlers south of the Mohawk and west of Flat creek was Maj. George Spraker, who acquired a title to the land on which the village stands from his father, Jost Spraker, and built a tavern which, after his retirement, was kept by a succession of landlords, closing with a Mr. Hart, who was in possession when the building was destroyed by fire. Its foundation walls are still to be seen.

The completion of the Erie Canal was properly the birthday of the village. Trade was introduced by Daniel Spraker, who built a store and warehouse in 1822 and 1823, and engaged in trading and forwarding, officiating in the transfer of freight from this place to a point below the Nose while the canal was incomplete at this spot. A second store was established by Joseph Spencer, nearby on the canal, where a formidable business was carried on. Mr. Spencer retiring, John L. Bevins became his successor. When the canal was enlarged, he erected a commodious stone building on its southern bank, where he did business for a number of years, when the property passed into the hands of the Messrs. Cohen, whose descendants still carry-on business at the old stand. Not to be left high and dry, as it were, by the change in the line of the canal at its enlargement, Mr. Spraker removed his store to match. After a mercantile life of twenty-eight years, he retired and was succeeded by David Quackenbush.

The present village has four stores, two hotels, two blacksmith, one wagon, two shoemakers', and one harness shop, an insurance agency, a telegraph office, a post office and a church. The latter was built in 1858, on a lot given by the late George Spraker. The village was connected by ferry with the railroad at Spraker's Station. A charter for a bridge was granted several years since, but the capital was not forthcoming. Many years ago, the village had a sawmill, a carding machine and a fulling mill." (USGenWeb Project 2007).

## 4.0 Archaeological Sensitivity Models

## 4.1 Historic Period

The sensitivity assessment for Historic archaeological resources is based mainly on cartographic evidencegathered from 19<sup>th</sup> to 20<sup>th</sup> century maps. These cartographic resources pinpoint the location of dwellings, schools, mills, churches, cemeteries, roads, and railroads providing the archaeologist with a ready point of comparison between past and present landscapes. In this, the sensitivity assessment differs greatly from those conducted for Prehistoric period archaeological resources. Historical archaeologists can also review secondary sources such as town histories, photographs, and newspapers to provide a larger historical context for a project area. The sensitivity assessment also includes a site file search for known archaeological sites within the

project area or sites that might serve as analogs for the Project area. Using known site types and distributions, historical archaeologists develop settlement models to make predictive statements about where to anticipate finding sites.

Locations that are considered sensitive for Historic period resources are associated with the following variables:

- documented existence of sites (e. g., homesteads, farmsteads, schools, churches, town halls, cemeteries) through primary, secondary, or cartographic resources
- presence of known sites (whether extant, above ground representations of earlyarchitecture, or documented archaeological sites)
- proximity to transportation systems (roads, railroads, major rivers, and streams) and potablewater sources
- linkage to other resources (such as stone for quarrying, clay sources for brick or ceramics, or metal ores)

Historic archaeological resources typically exist along transportation corridors, specifically roads and rivers. Environmental conditions, such as waterpower and land suitable for agriculture, also affect site location. Nineteenth- and twentieth-century maps of the Project area confirm that most buildings and structures were located along roads, which followed streams, rivers, or ponds because these areas were themost level and easiest to access. Euroamerican archaeological resources are commonly found where formerbuildings or structures stood, where people lived, and have left a trace of their lives in the form of artifactsand features.

A review of historic maps included 1853 *Map of Montgomery County, New York* (Figures 61 – 6J), Nichols' 1868 *Atlas of Montgomery and Fulton Countries, New York* (Figures 7A – 7J) and the 1898 and 1902 USGS topographic maps (Figures 8A – 8J). The historic maps from 1853 and 1968 show multiple map documented structures (MDS) within the Project Area.

## 4.2 Precontact Period

Just as people differentially inhabit the landscape today, groups in the Precontact period did not uniformly occupy the landscape either. Some of the decisions made in the past that informed land use are known, but more are not. Not surprisingly, some areas were more attractive than others to people deciding where to establish camps and villages and were used more often than others, because of the availability of unique resources (e.g., edible and medicinal plants, food animals, and raw materials, such as stone for tool making), or perhaps even through cultural preference. And, some areas may simply not have been frequented or ever used, because the locations possessed no value to the people living on the landscape at that time. Against this backdrop is the reality that not all human behavior leaves archaeologically visible traces. Additional problems confounding understanding of Precontact period land use happens when the environment in which archaeological deposits are buried degrades them and when more recent human activity destroys the archaeological evidence for older land use. A hundred years or more of archaeological data collection and analyses do confirm some patterns demonstrating decisions people made in the Precontact period regarding where to settle, at least in northeast North America. For example, locational data from a sample of more than 5,000 Precontact period sites in Maine show that proximity to water (streams, rivers, lakes, and wetlands) was a determining factor for locating human activity (Spiess 1994). Funk (1993) drew a similar conclusion with site location information he gathered from the Susquehanna River Valley. More recently archaeologists from TRC reviewed several large data sets they have collected from various parts of New York. They document a similar finding as here and some of those results based on cultural resources studies of wind projects, solar projects, and hydroelectric projects completed during the last decade or so.

Based on analytical results obtained from numerus studies concluding that proximity to water is a significant predictor of Precontact period site location, we considered its nearby presence or absence as a determining factor when deciding where to place our archaeological testing, but with several caveats. First, it does not require a meta-analysis of field data to reach consensus that people generally did not camp on steep slopes or utilize such areas unless they contained a resource, such as fine-grained stone resources useful for tool making that would otherwise attract their attention. Consequently, we eliminated areas of greater than 12% slope for field testing unless surficial geologic maps indicated a potential resource that we should consider unless geologic mapping data suggested testing. Similarly, people rarely camp on locations near waterbodies that are low and wet or saturated – the preference is for breaks in slope elevated above a waterbody that provide a relatively level, dry camp site.

Second, although soils data are generally presented in archaeological reports, their value as predictors of site locations has not been substantiated. A causal relationship between soil and sediment type has never been verified in the Northeast, except in one instance where a correlation has been shown to exist between Paleoindian site locations and sandy locations (Spiess and Wilson 1990). The Paleoindian period is an exception to the settlement pattern described above. Paleoindian period sites dating from 11,500 to 9,000 years before present are often located on relic Late Pleistocene/Early Holocene landforms that provided unobstructed views of the surrounding landscape below them. This is true throughout northeastern North American including New York (Ritchie 1980). These locations were rarely occupied during later cultural periods and are often strategically located above some form of low-lying terrain that may have been suitable habitat for caribou and other tundra and grassland-adapted game animals. Their campsites are typically indicative of short-term habitations by small groups of people, perhaps in some cases by even a single or extended family (Spiess et al. 1998). Therefore, erring on the side of caution, we considered well drained locations near a break in slope overlooking an area as sensitive for Paleoindian period archaeological resources and tested them accordingly.

Third, wetlands were considered as sensitive waterbodies in those situations where a break in slope was also present to provide an overlook or dry place for camping.

Finally, and unlike some methodologies, we did not include disturbances in our sensitivity calculations. We treated it as an independent variable. An area may or may not be sensitivity for Precontact period archaeological resources based on its proximity to water, topography and

geology, and soil type. A sensitive area, however, can have its status changed at any point on the past or present when a disturbance may have caused its archaeological value to have been diminished or destroyed. Both natural and cultural factors can play a role (Schiffer 1987). Natural processes include such things as when water erosion washes away an archaeological site. Cultural processes include the myriad of human activities (even archaeological excavation) that cause ground disturbance to an area where an archaeological site may have been or was present. Disturbances were carefully considered for the project by examining historic documentation of human activity in the area and through verification with field observations and testing.



## 5.0 Results of Desktop Archaeological Sensitivity Assessment

The results of the desktop sensitivity for all locations within the Project parcels are presented in Figures 9 and 9A-9J. For ease of data collection during walkover survey the areas with sensitivity for Precontact period resources were numbered (P-1, P-2, P-3 etc.) and areas with sensitivity for Historic period sensitivity were numbered (H-1, H-2, H-3 etc.). A walkover survey of the Project APE based on the Project plans was conducted in 2022. The walkover survey allowed us to confirm and refine the desktop sensitivity for locations within the Project parcels that may be impacted by Project development. Section 6.0 presents the results of walkover survey and refined sensitivity. Figure 10 shows the Project APE.

Since historic mapping is not precise we included MDSs located adjacent to the Project APE in our walkover survey in order to confirm their location outside of the APE and determine if any remains of associated structures such as barns and outbuildings were present within the Project APE. Additionally, we included areas around known Precontact period archaeological sites as sensitive and we used the walkover survey to define the boundary around a known site that we considered sensitive and in need of further investigations. This sensitive area around known sites was usually based on the confirmation of landforms. Some of the known sites within the Project APE are located more than 100 m from a waterbody on hills or rises that overlook Flat Creek and its tributaries.

## 6.0 Results of Walkover Survey and Refined Sensitivity Assessment

A walkover survey of the Project APE was used to verify the desktop sensitivity assessment summarized. The walkover survey also provided an opportunity to refine the locations that will require Phase IB testing if ground disturbance is anticipated due to Project development plans and determine the amount of Phase IB testing needed. Finally, walkover survey allowed documentation of areas of previous disturbance that will not require Phase IB testing.

Areas were refined in Precontact sensitivity according to presence within the Project APE of high landforms overlooking bodies of water, and proximity to previously identified sites. Areas were refined in Historic sensitivity according to presence within the Project of historic features (stonewalls, foundations, stone piles), and proximity to previously identified sites. Areas were removed from sensitivity according to low and wet conditions, evidence of disturbance during walkover (push piles, undulating terrain), and areas over 12% slopes. Historically sensitive areas were also removed from sensitivity if there was no evidence of foundations or other above ground historic features, presence of current standing modern or historic structures.

The results of the walkover survey are organized and presented by the nine sub-areas (Area A – Area I) previously defined (Table 1). The walkover survey was conducted by Field Director, Samantha Dunning (MA, Univ. of AK) and Wei Hao Ng, Archaeologist (BA, Binghamton Univ) from May to December 2022.

The walkover survey resulted in the confirmation of some areas identified as sensitive in the desktop review and the elimination of other areas. Some of the confirmed areas were modified in size and shape based on field work. Occasionally an area was further subdivided and renamed, for example, sensitive area P-10 became P-10A, P-10B, and P-10C. The final sensitivity for the Project APE is shown in Figures 10A – 10I. Areas with sensitivity for Precontact period resources located within the APE are indicated by yellow polygons and areas with sensitivity for Historic period resources are indicated by orange polygons. Areas within the Project APE or outside of the APE that were sensitive for Precontact period resources based on desktop sensitivity but were determined not sensitive based on walkover survey within the Project APE are labeled (e.g., P-11) but not associated with a colored polygon. Finally, areas that were determined sensitive for Precontact period resources based on desktop sensitive during walkover survey but are located outside of the Project APE are also labeled and not associated with a colored polygon.

## 6.1 Area A

Area A is located in the northwest most portion of the Project APE on the south side of the Mohawk River on the south side of State Route 5S and east side of Cunningham Road. Miller Drive bisects the western portion of Area A. Area A includes 4 parcels of primarily agricultural land (Figure 9A). The NRCS maps 25 soil units within Area A (Table 6). Most of the soils in Area A consist of loamy till, with Lansing silt loam, 3 - 25 % slopes (LaB, LaC, LaD) the most common soil type (Figure 4A). At the time of the Spring 2022 walkover, TRC did not have permission to access certain portions of Area A for survey. Therefore, we initially recommend Phase IB testing for all areas identified during desktop review that fall within the APE. Additional walkover was conducted in the Fall of 2022 to refine sensitivity (Figure 10A).

Soil	Name	Parent Material	Percentage	Hydric (Y/N)
ApA, ApB	Appleton silt loam, 0 to 8 percent slopes	lodgment till	11.7%	N
CFL	Cut and fill land	N/A	10.7%	N
ChB	Churchville silty clay loam, 3 to 8 percent slopes	Clayey glaciolacustrine	11.7%	N
DaB,	Darien silt loam, 3 to 8 percent slopes	Loamy till	6.1%	N
FaB	Farmington silt loam, 0 to 8 percent slopes	Loamy till	0.1%	N
FBD	Farmington-Rock outcrop association, moderately steep	Loamy till	0.5%	N
FL	Fluvaquents, loamy	Alluvium	0.3%	Y
На	Hamlin silt loam	Alluvium	2.7%	N
HrB	Howard gravelly silt loam, 3 to 8 percent slopes	Gravelly loam	0.3%	N
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	28.9%	N
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	4.6%	N
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	5.2%	Y
MsC	Mohawk silt loam, 8 to 15 percent slopes	Loamy till	0.0%	N
PaB, PaC, PaD	Palatine silt loam, 3 to 25 percent slopes	Loamy till	2.9%	N
RhB	Rhinebeck silty clay loam, 3 to 8 percent slopes	Clayey glaciolacustrine	1.1%	N
RLF	Rock outcrop-Farmington association, very steep	Loamy till	2.3%	N
Te	Teel silt loam	Silty alluvium	3.5%	N
WaB, WaC	Wassaic silt loam, 3 to 15 percent slopes	Loamy till	0.7%	N
Wy	Wayland soils complex, 0 to 3 percent slopes	Silty and clayey alluvium	2.0%	Y

## Table 6. Summary of Soils Area A

Four locations were identified as sensitive for Historic period resources based on desktop sensitivity (Figure 9A) (Table 7). H-1 is located on the east side of Cunningham Road. Currently, the area is a cleared agricultural field with no above ground Historic period features and standing structures. At the top of the hill is a standing farm to the north. Based on walkover results, H-1 is not sensitive for Historic period resources.



H-2 is located at the eastern end Miller Drive in the central portion of Area A. The area consists of grass fields along agricultural fields to the west. H-2 is considered sensitive for historic period resources due to its association with an unnamed structure on the 1868 map of the area. Based on current Project design plans, area H-2 falls outside of the APE. Therefore, no Phase IB testing is recommended.



Table 7. Results from Walkover Precontact period sensitivity Area A

Sensitive Area	General Location	Results	Recommendation
H-1	H-1 is located on east side of Cunningham Road just south of its intersection with Miller Drive	No above ground features, no standing structure	Not sensitive - no Phase IB testing
H-2	H-2 is located at the eastern end of Miller Drive	Associated with structure on 1868 historic map	Sensitive – outside APE – no Phase IB testing











## 6.2 Area B

Area B is located along the western edge of the Project APE north of Area C and south and east of Area A. Flat Creek is located to the east of Area B outside of the Project APE. A small unnamed stream flows through the central portion of Area B and is associated with wetlands located in the central area. Most of this area is composed of agricultural land with the exception of the portion south of the stream and wetland complex which is covered with shrub and tree vegetation and tends to be low and wet. The soils consist of 24 different soil types within Area B (Table 9). The majority of the soils in Area B consist of loamy till, with Darian silt loam, 3 – 8 % slopes (DaB) the most common soil type. Hydric soils are located in the low wet areas exist (Figures 4B and 9B). This area includes 4 parcels, with no Project impacts planned for 1 parcel within the center of the Project APE; therefore, it is not considered part of the Project APE (Figure 10B).

Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
AnB	Angola silt loam, 3 to 8 percent slopes	Loamy till	0.9%	N
АрВ	Appleton silt loam, 3 to 8 percent slopes	lodgment till	0.2%	N
ChA, ChB	Churchville silty clay loam, 0 to 8 percent slopes	Clayey glaciolacustrine	6.1%	N
DaB,	Darien silt loam, 3 to 8 percent slopes	Loamy till	26.8%	N
FBD	Farmington-Rock outcrop association, moderately steep	Loamy till	0.5%	N
FL	Fluvaquents, loamy	Alluvium	0.7%	Y
HuB	Hudson silty clay loam, 3 to 8 percent slopes	Clayey glaciolacustrine	1.4%	N
IIA, IIB	Ilion silt loam, 0 to 8 percent slopes	Loamy till	4.1%	Y

#### Table 9. Summary of Soils Area B



Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	22.4%	N
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	8.9%	N
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	2.9%	Y
Md	Madalin silty clay loam, moderately shallow variant	Clayey glaciolacustrine	1.0%	Y
MmB	Manheim silt loam, 3 to 8 percent slopes	Loamy till	0.9%	N
MsB, MsD	Mohawk silt loam, 3 to 8; 15 to 25 percent slopes	Loamy till	1.1%	N
PaB, PaC, PaD	Palatine silt loam, 3 25 percent slopes	Loamy till	14.4%	N
Pr	Phelps gravelly loam, fan	Loamy glaciofluvial	0.8%	N
RLF	Rock outcrop-Farmington association, very steep	Loamy till	0.5%	N

#### Table 9. Summary of Soils Area B

Two locations were identified as sensitive for Historic period resources based on desktop sensitivity (Figure 9B) (Table 10). H-4 is located on the east side of the large bend in Carlisle Road. A ca. 1850 cape style house is standing at this location and is assumed to be the structure shown on historic maps. Based on current Project design plans, area H-4 falls outside of the APE. Therefore, no Phase IB testing is recommended. H-5 is located in the southern most portion of Area B on the north side of Carlisle Road. Walkover survey showed no above ground historic features. The location consisted of cleared agricultural fields and had no visible structures (Photo 1). Based on walkover results, H-5 is no longer considered sensitive.



#### Table 10. Results from Walkover Historic period sensitivity Area B

Sensitive Area	General Location	Results	Recommendation
H-4	H-4 is located on the eastern side of Carlisle Road.	Standing structure ca. 1850	Sensitive – outside APE – no Phase IB testing
H-5	H-5 is located on the northern side of Carlisle Road.	No above ground features, no standing structure	Not sensitive - no Phase IB testing
			2

## Table 10. Results from Walkover Historic period sensitivity Area B

Sensitive Area	General Location	Results	Recommendation	







## Table 11. Results from Walkover Precontact period sensitivity Area B

Sensitive Area	General Location	Results	Recommendation

## 6.3 Area C

Area C is along the western edge of the Project APE south of Area B on the east and west sides of Carlisle Road at its intersection with Lincoln Road. Flat Creek runs through the parcel located on the east side of Carlisle Road. This area is composed of agricultural land except for the



portions surrounding Flat Creek which are steeply sloped and covered with shrub and tree vegetation. The soils consist of 29 different soil types within Area C (Table 12). Most of the soils in Area C consist of loamy till and clayey glaciolacustrine. Darian silt loam, 3 – 8 % slopes (DaB) is the most common soil type (Figure 4C). Hydric soils in this area are associated with large wetland complexes in the southern portion and in the western portion of this area (Figure 9C). This area includes 13 parcels (Figure 10C).

Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
AnB	Angola silt loam, 3 to 8 percent slopes	Loamy till	0.5%	N
ApB	Appleton silt loam, 3 to 8 percent slopes	lodgment till	2.1%	N
BuB, BuC	Burdett channery silt loam, 3 to 8 percent slopes	Till	8.8%	N
CFL	Cut and fill land	N/A	0.1%	Ν
ChA, ChB	Churchville silty clay loam, 0 to 8 percent slopes	Clayey glaciolacustrine	11.5%	N
DaA DaB DaC	Darien silt loam, 0 to 15 percent slopes	Loamy till	37.1%	N
FL	Fluvaquents, loamy	Alluvium	5.1%	Y
Fo	Fonda mucky silty clay loam	Clayey glaciolacustrine	1.6%	Y
Fr	Fredon silt loam	Loamy over sandy gravelly glaciofluvial	0.7%	Y
HrA, HrB	Howard gravelly silt loam, 0 to 8 percent slopes	Gravelly loamy glaciofluvial	0.8%	N
IIA, IIB	Ilion silt loam, 0 to 8 percent slopes	Loamy till	5.2%	Y
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	4.3%	N
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	5.5%	N
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	9.9%	Y
NuC, NuD	Nuda channery silt loam, 8 to 25 percent slopes	Till	0.8%	N
PaB, PaC, PaD	Palatine silt loam, 3 to 25 percent slopes	Loamy till	1.5%	N
PpA, PpB	Phelps gravelly loam, 0 to 8 percent slopes	Loamy glaciofluvial	0.6%	N
Pr	Phelps gravelly loam, fan	Loamy glaciofluvial	2.3%	N
RhB	Rhinebeck silty clay loam, 3 to 8 percent slopes	Clayey glaciolacustrine	1.4%	N

## Table 12. Summary of Soils Area C

Desktop analysis resulted in the identification of 5 areas with sensitivity for Historic period resources (H-6, H-7, H-9, and H-10) (Figure 9C). The results of walkover survey of these locations are described below and summarized in Table 13 and shown in Figure 10C.


H-6 is located in the central portion of Area C on the east side of Carlisle Road at the intersection of Lincoln Road. The location is currently a cleared agricultural field with a historic barn and silo (Photo 9). This barn may be the unnamed structure that is shown on the 1868 map. The area around the existing barn is considered sensitive for Historic resources. Based on current Project design plans, area H-6 falls outside of the APE. Therefore, no Phase IB testing is recommended.

H-7 is located in the central portion of Area C on the west side of the intersection of Carlisle Road and Lincoln Road. Currently, the location consists of cleared agricultural field with no visible above ground Historic features and no standing structures (Photo 10). Based on walkover results, H-7 is not sensitive for Historic period resources.

H-9 is located in the south-central portion of Area C between Lincoln Road and Carlisle Road set back from roads. Currently, the area is a cleared agricultural field with no above ground Historic period features and standing structures (Photo12). Based on walkover results, H-9 is not sensitive for Historic period resources.

H-10 is located in the southern portion of Area C just south and east of H-9 along the east side of Lincoln Road. Currently, the area is a cleared agricultural field with no above ground Historic period features and standing structures (Photo 13). Based on walkover results, H-10 is not sensitive for Historic period resources.

Sensitive Area	General Location	Results	Recommendation
H-6	H-6 is located on the east side of the intersection of Carlisle Road and Lincoln Road.	barn and silo are still standing	Sensitive – outside APE – no Phase IB testing
H-7	H-7 is located on the west side of the intersection of Carlisle Road and Lincoln Road.	no above ground features or standing structure - Not sensitive	Not sensitive – no Phase IB testing
H-9	H-9 is located on the southeast side of Carlisle Road, set back from the road edge in the agricultural field.	no above ground features or standing structure – Not sensitive	Not sensitive – no Phase IB testing
H-10	H-10 is located on the east side of Lincoln Road south of H-8 and H- 9.	no above ground features or standing structure – Not sensitive	Not sensitive – no Phase IB testing

#### Table 13. Summary of locations with Historic period sensitivity by Area C

Five locations with Precontact period sensitivity were identified by desktop analysis (P-6, P-7, P-8, P-9, and P-10) (Figure 9C). The results of walkover survey of these locations are described below and summarized in Table 14 and shown in Figure 10C.

P-6 is located on the west side of Carlisle Road in the northwestern portion of Area C. It includes area surrounding a series of small linear wetlands in the south associated with agricultural



drainages and an area to the north that includes shrub vegetation surrounding wetlands. Walkover survey showed that this entire area is low and wet and not sensitive for Precontact period resources (Photos 14 and 15). No Phase IB testing is recommended for P-6.



P-8 is located immediately south of P-6 on the west side of Carlisle Road and Lincoln Road. It includes the area adjacent to a large wetland complex. Walkover survey showed that this entire area is low and wet and not sensitive for Precontact period resources. No Phase IB testing is recommended for P-8.



Table 14. Summary of culturally sensitive locations organized by Are	a C
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Sensitive Area	General Location	Results	Recommendation
P-6	P-6 is located on the west side of Carlisle Road in the northwestern portion of Area C	P-6 consists of a cleared field that is low and wet with undulating terrain and push piles	Not sensitive – no Phase IB testing
P-8	P-8 is located immediately south of P-6 on the west side of Carlisle Road and Lincoln Road	P-8 is low and wet	Not sensitive – no Phase IB testing
-			

### 6.4 Area D

Area D is located along the southern edge of the Project APE between Area C to the west and Areas E and F to the east. Area D includes portions north of Carlisle Road between Hilltop Road



and Rappa Road as well as areas south of Carlisle Road north and south of Conway Road. This area is composed of agricultural land and low flood plains surrounding portions of Flat Creek. The southwestern section of Area D includes dense shrubs and deciduous tree clusters. The soils consist of 29 different soil types within Area D (Table 15). Most of the soils in Area D consist of loamy till and clayey glaciolacustrine, with Darian silt loam, 3 - 8 % slopes (DaB) the most common soil type (Figure 4D). Hydric soils in this area are associated with large wetland complexes (Figure 9D). This area includes 11 parcels with no Project impacts planned for 3 parcels in the northern section and 1 parcel in the southeastern portion. These no impact parcels are not considered part of the Project APE (Figure 10D).

Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
AIB	Alton gravelly loam, 3 to 8 percent slopes	Gravelly loamy glaciofluvial	0.2%	N
АрВ	Appleton silt loam, 3 to 8 percent slopes	lodgment till	10.4%	N
BuB, BuC	Burdett channery silt loam, 3 to 8 percent slopes	Till	11.1%	N
ChA, ChB	Churchville silty clay loam, 0 to 8 percent slopes	Clayey glaciolacustrine	6.7%	N
DaA, DaB, DaC	Darien silt loam, 0 to 15 percent slopes	Loamy till	25.8%	N
FL	Fluvaquents, loamy	Alluvium	3.2%	Y
Fo	Fonda mucky silty clay loam	Clayey glaciolacustrine	0.3%	Y
Fr	Fredon silt loam	Loamy over sandy gravelly glaciofluvial	4.5%	Y
HrA, HrB HrC	Howard gravelly silt loam, 0 to 15 percent slopes	Gravelly loamy glaciofluvial	2.7%	N
IIA, IIB	llion silt loam, 0 to 8 percent slopes	Loamy till	13.4%	Y
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	2.8%	N
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	1.5%	N
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	2.7%	Y
NuB, NuC, NuD	Nuda channery silt loam, 3 to 25 percent slopes	Till	5.6%	Ν
PpA, PpB	Phelps gravelly loam, 0 to 8, percent slopes	Loamy glaciofluvial	3.4%	N
Pr	Phelps gravelly loam, fan	Loamy glaciofluvial	5.0%	Ν
RhB	Rhinebeck silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	0.8%	N

#### Table 15. Summary of Soils Area D

Desktop analysis resulted in the identification of 4 locations with sensitivity for Historic period resources (H-11, H-12, H-13, and H-14) (Figure 9D). The results of walkover survey of these locations are described below and summarized in Table 16 and shown in Figure 10D.



H-11 is located in the central portion of Area D and south of P-13 on the north side of Carlisle Road. Currently, the area is a cleared agricultural field with no above ground Historic period features or standing structures (Photo 24). Based on these results H-11 is not sensitive for Historic period resources and is not recommended for Phase IB testing.

H-12 is located in the central portion of Area D and west of P-19 on Conway Road. Currently, the area is a cleared agricultural field with no above ground Historic period features and no standing structures (Photo 25). Based on walkover results H-12 is not sensitive for Historic period resources and is not recommended for Phase IB testing.

H-13 is located in the southwestern portion of Area D and west of H-14 along Conway Road. Currently, the area is a cleared agricultural field with no above ground Historic period features and no standing structures (Photo 26). Based on these results H-13 is not sensitive for Historic period resources and is not recommended for Phase IB testing.

H-14 is located in the south-central portion of Area D on Conway Road. Currently, the area is a cleared agricultural field with no above ground Historic period features and no standing structures (Photo 27). One stone wall was observed running east-west through H-14. H-14 is not sensitive for Historic period resources and is not recommended for Phase IB testing.



Table 16. Summary o	of locations with	Historic period	sensitivity by	Area D
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Sensitive Area	General Location	Results	Recommendation
H-11	HA7 is located on the north side of Carlisle Road west of the intersection with Rappa Road extending to the intersection with Hilltop Road.	no above ground features or standing structure	Not sensitive - no Phase IB testing
H-12	H-12 is located south side of Conway Road in the southern portion of Area D.	no above ground features or standing structure	Not sensitive - no Phase IB testing
H-13	H-13 is located on the south side of Conway Road to the west of H- 12.	no above ground features or standing structure	Not sensitive - no Phase IB testing
H-14	H-14 is located south side of Conway Road to the south and west of H-12.	no above ground features or standing structure	Not sensitive - no Phase IB testing
			-



Table 16. Summary	of locations with	<b>Historic period</b>	sensitivity b	y Area D
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Sensitive Area	General Location	Results	Recommendation

Five locations with Precontact period sensitivity were identified by desktop analysis (P-11, P-12, P-13, P-14, P-28) (Figure 9D). The results of walkover survey of these locations are described below and summarized in Table 17 and shown in Figure 10D.

P-11 located in the northeastern portion of Area D consists of agricultural fields with drainage ditches bisecting them (Photos 30 and 31). P-11 falls within NYSM Area 4019, which was identified as a village with earthworks. No earthworks were identified during walkover results; the area is low with human made drainage ditches throughout and does not appear sensitive for Precontact period resources. No Phase IB testing is recommended for P-11.



P-28 is in the southernmost portion of Area D in the south side of Conway Road it includes the area surrounding an unnamed stream and associated wetlands. P-28 area is undulating terrain with human made drainage throughout and low and wet areas. It is not sensitive for Precontact period resources and is not recommended for Phase IB testing.

Table 17. Summary of culturally sensitive locations organized by Area	Table 17	e 17. Summary of	f culturally	sensitive	locations	organized	by Area I
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Sensitive Area	General Location	Results	Recommendation
P-11	P-11 is located in the northern portion of Area D to the north of P-	The portion of the Area D that falls within NYSM area	Not sensitive - no Phase IB testing
	portion of Area D to the north of P-	that falls within NYSM area	Phase I

Sensitive Area	General Location	Results	Recommendation
	12 on the west side of Rappa Road. It overlaps the transmission line.	4019. The area consists of low wet agricultural fields with drainage ditches bisecting them.	
			g
P-28	P-28 is located in the southern most portion of Area D in the south side of Conway Road.	P-28 area is undulating terrain with human made drainages throughout and low and wet areas.	Not sensitive - no Phase IB testing

## Table 17. Summary of culturally sensitive locations organized by Area D

# 6.5 Area E

Area E is located along the south-central edge of the Project APE and north of Area F. Area E is north of Carlisle Road between Rappa Road to the west and Flat Creek Road to the east. This area is composed of agricultural land with sloped sections, low and wet sections, and previously logged forests in the north. The soils consist of 28 different soil types within Area E (Table 18). Most of the soils in Area E consist of loamy till and clayey glaciolacustrine, with Darian silt loam, 3 - 8 % slopes (DaB) and Ilion silt loam, 0 - 8 % slopes (IIA, IIB) the 2 most common soil types (Figure 4E). Hydric soils in this area are associated with wetland complexes in the central portion of Area E (Figure 9E). This area includes 5 parcels with no Project impacts planned for 3 parcels in the northern section. These no impact parcels are not considered part of the Project APE (Figure 10E).

### Table 18. Summary of Soils Area E

Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
AIB	Alton gravelly loam, 3 to 8 percent slopes	Gravelly loamy glaciofluvial	1.7%	N



Soil unit	I unit Name Parent Material		Percentage	Hydric (Y/N)	
AnB	Angola silt loam, 3 to 8 percent slopes	Loamy till	1.0%	N	
ApA, ApB	Appleton silt loam, 0 to 8 percent slopes	lodgment till	4.8%	N	
BuB, BuC	Burdett channery silt loam, 3 to 15 percent slopes	Till	14.4%	N	
ChB	Churchville silty clay loam, 3 to 8 percent slopes	Clayey glaciolacustrine	2.8%	N	
DaB,	Darien silt loam, 3 to 8 percent slopes	Loamy till	26.1%	N	
FL	Fluvaquents, loamy	Alluvium	3.8%	Y	
Fo	Fonda mucky silty clay loam	Clayey glaciolacustrine	3.9%	Y	
Fr	Fredon silt loam	Loamy over sandy gravelly glaciofluvial	0.0%	Y	
HrC	Howard gravelly silt loam, 8 to 15 percent slopes	Gravelly loamy glaciofluvial	0.4%	N	
IIA, IIB	llion silt loam, 0 to 8 percent slopes	Loamy till	27.8%	Y	
LaB, LaC,	Lansing silt loam, 3 to 15 percent slopes	lodgment till	1.2%	N	
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	0.7%	N	
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	2.5%	Y	
MmB	Manheim silt loam, 3 to 8 percent	Loamy till	0.9%	N	
NuB, NuC, NuD	Nuda channery silt loam, 3 to 25 percent slopes	Till	2.1%	N	
PaB, PaC,	Palatine silt loam, 3 to 15 percent slopes	Loamy till	1.9%	N	
PpA, PpB	Phelps gravelly loam, 0 to 8 percent slopes	Loamy glaciofluvial	0.4%	N	
Pr	Phelps gravelly loam, fan	Loamy glaciofluvial	2.9%	N	
RhA	Rhinebeck silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	0.4%	N	

#### Table 18. Summary of Soils Area E

Desktop analysis resulted in the identification of 1 area with sensitivity for Historic period resources (H-15) (Figure 9E). The walkover survey result of this location is described below and summarized in Table 19.

H-15 is located in the south-central portion of Area E and adjacent to the southern portion of P-18. Currently, the area is a cleared agricultural field with no above ground Historic period features or standing structures (Photo 40). Based on these observations, H-15 is not sensitive for Historic period resources and is not recommended for Phase IB testing.



Table 19. Summary of locations with Historic period sensitive	ity by Area E
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Sensitive Area	General Location	Results	Recommended testing
H-15	H-15 is located at the intersection of Carlisle Road and Flat Creek Road on the north side of Carlisle Road and adjacent to P-18.	no above ground features or standing structure	Not sensitive - no Phase IB testing

Four locations with Precontact period sensitivity were identified by desktop analysis (P-15, P-16, P-17, and P-18) (Figure 9E). The results of walkover survey of these locations are described below and summarized in Table 20 and shown in Figure 10E.



Table 20. Summary of culturally sensitive locations organized by Area E

Sensitive Area	General Location	Results	Recommendation





#### Table 20. Summary of culturally sensitive locations organized by Area E

### 6.6 Area F

Area F is located along the south-central edge of the Project APE and south of Area E. Area F is south of Carlisle Road on both sides of Mapletown Road. This area is composed of maple and beech forests to the south and agricultural fields throughout. The soils consist of 23 different soil types within Area F (Table 21). Most of the soils in Area F consist of loamy till, with Burdett channery silt loam, 3 – 15% slopes (BuB, BuC) the most common soil type (Figure 4F). Hydric soils in this area are associated with large wetland complexes located throughout the Area (Figure 9F). Area F includes 5 parcels, all of which will have Project impacts (Figure 10F).

Table 21.	Summary	of Soils	Area F
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Soil unit	hit Name Parent Material Alton gravelly loam, 3 to 8 percent slopes Gravelly loamy glaciofluvial		Percentage	Hydric (Y/N)
AIB			2.3%	N
ApB	Appleton silt loam, 3 to 8 percent slopes	lodgment till	7.4%	N
BuB, BuC	Burdett channery silt loam, 3 to 15 percent slopes	Till	17.6%	N
DaB	Darien silt loam, 0 to 3 percent slopes	Loamy till	12.4%	N
FL	Fluvaquents, loamy	Alluvium	4.2%	Y
Fo	Fonda mucky silty clay loam	Clayey glaciolacustrine	0.0%	Y
Fr	Fredon silt loam	Loamy over sandy gravelly glaciofluvial	4.4%	Y



Soil unit Name		Parent Material	Percentage	Hydric (Y/N)	
IIA, IIB	Ilion silt loam, 0 to 8 percent slopes	Loamy till	6.0%	Y	
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	8.4%	N	
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	6.1%	N	
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	11.7%	Y	
NuB, NuC, NuD	Nuda channery silt loam, 3 to 25 percent slopes	Till	3.6%	N	
PaB, PaC, PaD	Palatine silt loam, 3 to 25 percent slopes	Loamy till	12.9%	N	
РрВ	Phelps gravelly loam, 3 to 8 percent slopes	Loamy glaciofluvial	1.6%	N	
Pr	Phelps gravelly loam, fan	Loamy glaciofluvial	1.2%	N	

#### Table 21. Summary of Soils Area F

Desktop analysis did not result in the identification of any locations with Historic period sensitivity (Figure 9F). Two areas with sensitivity for Historic period resources (H-W3, H-W4) were identified during walkover survey (Figure 10F). The results of walkover survey of these locations are described below and summarized in Table 22.



Table 22. Summary of locations with Historic period sensitivity by Area F

Sensitive Area	General Location	Results	Recommendation

Four locations with Precontact period sensitivity were identified by desktop analysis (P-19, P-20, P-21, and P-22) (Figure 9F). The results of walkover survey of these locations are described below and summarized in Table 23 and shown in Figure 10F.





# Table 23. Summary of culturally sensitive locations organized by Area F





Some locations within areas P-19, P-20, and P21 were removed from sensitivity due to slopes greater than 12% (Photo 54), or low and wet conditions and undulating terrain (Photo 55).

# 6.7 Area G

Area G is located along the southeastern edge of the Project APE and east of Area F. Area G is east of Carlisle Road between Flanders Road to the north and Mahr Road to the south. This area is composed of cleared and sloped agricultural fields with shrubby forests along the drainage margins. The soils consist of 20 different soil types within Area G (Table 24). Most of the soils in Area G consist of loamy till, with Darian silt loam, 3 - 8% slopes (DaB) the most common soil type (Figure 4G). Hydric soils in this area are associated with large wetland complexes (Figure 9G). Area G includes 5 parcels, all of which will have Project impacts (Figure 10G).

Soil unit	unit Name Parent Materia		Percentage	Hydric (Y/N)	
AIB	Alton gravelly loam, 3 to 8 percent slopes	Gravelly loamy glaciofluvial	0.2%	N	
AnB	Angola silt loam, 3 to 8 percent slopes	Loamy till	0.5%	N	
АрВ	Appleton silt loam, 3 to 8 percent slopes	lodgment till	14.6%	Ν	
BuB, BuC	Burdett channery silt loam, 3 to 15 percent slopes	Till	11.9%	N	
ChA, ChB	Churchville silty clay loam, 0 to 8 percent slopes	Clayey glaciolacustrine	4.8%	N	
DaB	Darien silt loam, 3 to 8 percent slopes	Loamy till	29.1%	N	
FL	Fluvaquents, loamy	Alluvium	5.1%	Y	
IIB	Ilion silt loam, 3 to 8 percent slopes	Loamy till	2.9%	Y	
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	16.8%	N	
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	lodgment till	4.2%	N	
LoB	Lordstown gravelly silt loam, 3 to 8 percent slopes	Loamy till	1.2%	Ν	
Ма	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	3.3%	Y	
NuD	Nuda channery silt loam, 15 to 25 percent slopes	Till	0.4%	Ν	

### Table 24. Summary of Project Soils for Area G



Table	24.	Summarv	of	Pro	iect	Soils	for	Area	G
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Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)	
PaB, PaC Palatine silt loam, 3 to 15 percent slopes		Loamy till	1.2%	N	
Pr	Phelps gravelly loam, fan	Loamy glaciofluvial	3.8%	N	

Desktop analysis resulted in the identification of 3 areas with sensitivity for Historic period resources (H-16, H-17, and H-22) (Figure 9G). The results of walkover survey of these locations are described below and summarized in Table 25 and shown in Figure 10G.

H-16 is located in the northern portion of Area G on the south side of Flanders Road. The location has modern industrial structures on it and no evidence of historic structures (Photo 56). Based on these results, H-16 is not sensitive for Historic period resources and is not recommended for Phase IB testing.

H-17 is located in the southcentral portion of Area G in the eastern edge of Carlisle Road, The location included cleared and sloped fields with no visible structures or historic features (Photo 57). Based on walkover survey, H-17 is not sensitive for Historic period resources and is not recommended for Phase IB testing.



Table 25. Summary of locations with Historic period sensitivity by Area G

Sensitive Area	General Location	Results	Recommendation
H-16	H-16 is located on the south side of Flanders Road in the northern portion of Area G.	modern structure	Not sensitive - no Phase IB testing
H-17	H-17 is located in the southern portion of the Area G along the eastern edge of Carlisle Road, north of Carlisle Road and Mahr Road intersection.	no above ground features or standing structure	Not sensitive - no Phase IB testing

One location with Precontact period sensitivity was identified by desktop analysis (P-23) (Figure 9G). The results of walkover survey of this location are described below and summarized in Table 26 and shown in Figure 10G.





Table 26. Summary of culturally sensitive locations organized by Area G

Sensitive Area	General Location	Results	Recommendation
	1		

Areas were removed from P-23 sensitivity due to low, wet, and undulating conditions (Photo 61) and steep slopes over 12% (Photo 62).

### 6.8 Area H

Area H is located along the eastern edge of the Project APE and north of Area G. Area H is south of State Highway 162 and north of Columbia Road. Darrow Road bisects Area H running north-south through the center of this area. This area is composed of shrubby fields with wet mixed forests along the wetlands. The soils consist of 22 different soil types within Area H (Table 27). Most of the soils in Area H consist of loamy till, with Darian silt loam, 3 – 8% slopes (DaB) the most common soil type (Figure 4H). Hydric soils in this area are associated with wetland complexes (Figure 9H). Area H includes 8 parcels, 3 of which will have no Project impacts within the center of Area H (Figure 10H).

Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
AnB	Angola silt loam, 3 to 8 percent slopes	Loamy till	15.2%	N
ApA, ApB	Appleton silt loam, 3 to 8 percent slopes	lodgment till	18.0%	N
BuB	Burdett channery silt loam, 3 to 8 percent slopes	Till	0.6%	N
ChA, ChB	Churchville silty clay loam, 0 to 8 percent slopes	Clayey glaciolacustrine	1.4%	N

Table 27. Summary of Project Soils for Area H



Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
DaA, DaB	Darien silt loam, 0 to 8 percent slopes	Loamy till	25.3%	N
FaB	Farmington silt loam, 0 to 8 percent slopes	Loamy till	0.2%	N
FL	Fluvaquents, loamy	Alluvium	0.9%	Y
Fo	Fonda mucky silty clay loam	Clayey glaciolacustrine	0.4%	Y
IIA, IIB	Ilion silt loam, 0 to 8 percent slopes	Loamy till	11.1%	Y
LaB, LaC,	Lansing silt loam, 3 to 15 percent slopes	lodgment till	5.7%	N
Ma	Madalin silty clay loam, 0 to 3 percent slopes	Clayey glaciolacustrine	9.4%	Y
Md	Madalin silty clay loam, moderately shallow variant	Clayey glaciolacustrine	0.8%	Y
MmB	Manheim silt loam, 3 to 8 percent slopes	Loamy till	0.1%	N
PaB, PaC, PaD	Palatine silt loam, 3 to 25 percent slopes	Loamy till	10.2%	N
SA	Saprists and Aquents	Organic material	0.4%	N

## Table 27. Summary of Project Soils for Area H

Desktop analysis resulted in the identification of 2 areas with sensitivity for Historic period resources (H-18 and H-19) (Figure 9H). The results of walkover survey of these locations are described below and summarized in Table 28 and shown in Figure 10H.

H-18 is in the northeastern portion of Area H on the south side of State Route 162. It included cleared fields and had no visible structures for historic features (Photo 63). Based on these results, H-18 is not sensitive for Historic period resources and is not recommended for Phase IB testing.

H-19 is located on the western portion of Area H on the eastern side of Flake Creek Road. The location included a modern structure and no evidence of historic structures or features (Photo 64). Therefore H-19 is not considered sensitive for Historic period resources and is not recommended for Phase IB testing.

Table 28. Summary	of locations with	<b>Historic period</b>	sensitivity by	Area H
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Sensitive Area	General Location	Results	Recommendation
H-18	H-18 is located on the south side of State Route 162 in Currytown, in the northern portion of Area H.	no above ground features or standing structure	Not sensitive - no Phase IB testing
H-19	H-19 is located on the eastern side of Flat Creek Road.	modern structure	Not sensitive - no Phase IB testing



Three locations with Precontact period sensitivity were identified by desktop analysis (P-24, P-29, P-30) (Figure 9H). The results of walkover survey of this location are described below and summarized in Table 29 and shown in Figure 10H.



P-29 is in the eastern portion of Area H on the east side of Flat Creek Road and includes the area surrounding a small stream with associated wetlands. The transmission line bisects P-29. Walkover survey showed this area is low and wet and not sensitive for Precontact period resources. No Phase IB testing is recommended for P-29.

P-30 is in the northeast corner of Area H and includes agricultural land surrounding a wetland. Walkover survey demonstrated that is the area is low and wet with no discernible break in slope near the wetland. P-30 is not sensitive for Precontact period resources and is not recommended for Phase IB testing.

Sensitive Area	General Location	Results	Recommendation
P-29	P-29 is in the eastern portion of Area H on the east side of Flat Creek Road	P-29 includes both side of a small stream and wetlands it is low and wet	Not sensitive - no Phase IB testing
P-30	P-30 is in the northeast corner of Area H	P-30 includes low wet agricultural land surrounding a wetland	Not sensitive - no Phase IB testing

### Table 29. Summary of culturally sensitive locations organized by Area H

### 6.9 Area I

Area I is located along the eastern edge of the Project APE and north of Area H. Area I is intersected by State Highway 162 running east-west across its center. This area is composed of sloped fields with forested drainages to the south and cleared fields with patches of dense forest to the north. The soils consist of 15 different soil types within Area I (Table 30). Most of the soils in Area I consist of loamy till, with Darian silt loam, 3 – 8% slopes (DaB) the most common soil type (Figure 4I). Hydric soils in this area are associated with large wetland complexes (Figure 9I). Area I includes 1 parcel, and it will have Project impacts (Figure 10I).



Soil unit	Name	Parent Material	Percentage	Hydric (Y/N)
АрА, АрВ	Appleton silt loam, 0 to 8 percent slopes	lodgment till	2.3%	N
ChB	Churchville silty clay loam, 3 to 8 percent slopes	Clayey glaciolacustrine	0.0%	N
DaB	Darien silt loam, 3 to 8 percent slopes	Loamy till	56.8%	Ν
FBD	Farmington-Rock outcrop association, moderately steep	Loamy till	5.4%	N
FL	Fluvaquents, loamy	Alluvium	4.0%	Y
IIA, IIB	Ilion silt loam, 0 to 8 percent slopes	Loamy till	11.4%	Y
LaB, LaC, LaD	Lansing silt loam, 3 to 25 percent slopes	lodgment till	12.9%	N
MmB	Manheim silt loam, 3 to 8 percent slopes	Loamy till	0.0%	N
PaB, <mark>PaC</mark>	Palatine silt loam, 3 to 15 percent slopes	Loamy till	1.1%	N
RLF	Rock outcrop-Farmington association, very steep	Loamy till	5.6%	N

### Table 30. Summary of Project Soils for Area I

Desktop analysis resulted in the identification of 2 areas with sensitivity for Historic period resources (H-20 and H-21) (Figure 9I). The results of walkover survey of these locations are described below and summarized in Table 31 and depicted in Figure 10I.

H-20 is located in the central portion of Area I on the north side of State Route 162. It is composed of clear fields with no evidence of standing structures or historic features (Photo 69). Based on walkover survey H-20 is not sensitive for Historic period resources and is not recommended for Phase IB testing.



Table 31. Summary o	of locations with	<b>Historic period</b>	sensitivity by Area I	
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Sensitive Area	General Location	Results	Recommendation
H-20	H-20 is located on the north side of State Route 162 on the west side of an existing farm.	no standing structure	Not sensitive - no Phase IB testing

Two locations with Precontact period sensitivity were identified by desktop analysis (P-25. and P-27) (Figure 9I). The results of walkover survey of these locations are described below and summarized in Table 32 and shown in Figure 10I.









# 7.0 Conclusions

The desktop assessment of the Project APE resulted in the identification of 23 locations with sensitivity for Historic period archaeological resources and 31 locations with sensitivity for Precontact period archaeological resources. The total numbers of archaeologically sensitive



locations do not include the sensitive areas identified during desktop review of Area J. No project related ground disturbance will be completed in Area J, so it was not included during walkover survey. Walkover survey of the Project Area was conducted to refine the desktop sensitivity assessment. The walkover survey verified that 7 locations were sensitive for Historic period resources and identified 4 new locations with Historic period sensitivity. Based on the current design plans 4 of these locations fall outside of the Project APE and are not recommended for Phase IB testing.

Walkover survey verified that 23 locations are sensitive for Precontact period resources. One of these locations, P10, was broken up into 3 sensitive loci, 10A, 10B, and 10C. One new location with Precontact period sensitivity was added based on the walkover survey for a total of 24 sensitive locations. Based on the current design plans, 4 of these locations fall outside of the Project APE and are not recommended for Phase IB testing. Phase IB archaeological investigations are recommended for any portion of these archaeologically sensitive areas that will be impacted by ground disturbing Project activities. This data will be used with the Project design plans to determine the Project APE for Phase IB investigations. Phase IB investigations will use a combination of subsurface testing and pedestrian survey of recently disced agricultural fields to determine if archaeological sites are present within the Project APE.

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Figure 5 has been redacted (1 page) due to its confidential nature.






















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Dievendorff. W.B.Diefendor Bauder MOdlemyrs WBDie • G P Stowits FHe 55 GClark sbee Area G DLink mit L. Moo N.S.Mochell DH.Moch ndor FGreen . L. Mochell PROJECT: **Project Boundary** SUNEAST 6 FLAT CREEK SOLAR PROJECT Area 500 1,000 1868 ATLAS OF MONTGOMERY COUNTY NY FEET AREA G 1:17,348 1" = 1,446' PROJ. NO .: DRAWN BY: ABBIE YOUNG 427281 CHECKED BY: KAREN MACK APPROVED BY: KAREN MACK **FIGURE 7G** Alban APRIL 2023 DATE ew York P.O. BOX 1068 BATH, ME 04530 R BASE MAP: USGS COLOR ORTHO IMAGERY DATA SOURCES: TRC FLAT CREEK SOLAR 08052022



























Figure 9 has been redacted (1 page) due to its confidential nature.

Figures 9A to 9J have been redacted (10 pages) due to their confidential nature.



Figures 10A to 10I have been redacted (9 pages) due to their confidential nature.





















































































APPENDIX 1 Project Plans



	SYSTEM SPECIFICATIONS:
DC JZIZ MATRY2	403,297.00 KW
SYSTEM SIZE AC @INVERTER	336,000,00
DC/AC RATIO BINVERTER	1.20
SYSTEM SIZE AC @PDI	00.000,000
DC/AC RATIO @POI	1.34
MODULE MODEL	CANADIAN SOLAR CS6Y-565MB-AG
MODULE RATING	565 W
TOTAL MODULE QUANTITY	713,800
INVERTER MODEL	TMEIC NINJA PVU-LO8405R
INVERTER RATING	840 KW
TOTAL INVERTER QUANTITY	400
TOTAL NUMBER OF STRINGS	28,552
STRINGS PER INVERTER	71.38
MODULES PER STRING	25
INPUTS PER INVERTER	6
RACKING	SINGLE AXIS TRACKING, NEXTRACKER NX HORIZON OR EQUIVALENT
TILT	-60' TO 60'
AXIS AZIMUTH	D.
PITCH	20'-0"
GROUND COVERAGE RATIO	0,397
TOTAL FENCED AREA	APPROXIMATELY 1,572.1 ACRES
TOTAL BUILDABLE AREA	APPROXIMATELY 2,215.7 ACRES





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- NOTES: 1. PRELIMINARY DRAWING. NOT FOR CONSTRUCTION. 2. INSTALLATION TO COMPLY WITH NEC 2017 ARTICLE 690 AND ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES OR REGULATIONS. 3. EQUIPMENT SHALL BE LABELED AS PER NEC 690. 4. ACCESS ROAD SHALL BE LEBELED AS PER NEC 690. 5. DIMENSIONS OF THE PARCEL BOUNDARIES AND EXISTING FEATURES ARE APPROXIMATE, PENDING SURVEY.

PROJECT ADDRESS:	
FLAT CREEK SOLAR	
FLAT CREEK, NY	
LAT: 42.859800"	
LONG: -74,510914"	

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TRC 670 NORTH COMMERCIAL STREET SUITE 203 MANCHESTER, NH 03101 PROJECT NO: 484153					
REV	DESCRIPTION	DATE	DES	СНК	APP
0	ISSUED FOR REVIEW	06/13/22	NJP	AC	j

A Land		
	POWER STATION (TYP.)	
	COLLECTOR SUBSTATION	1

## 2 ARRAY LAYOUT

