Full Environmental Assessment Form Part 1

Lincoln Park DG, LLC

Lincoln Park Grid Support Center

Site Plan and Minor Subdivision

State Route 32

Town of Ulster

Ulster County, New York

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Prepared by:

Chazen Engineering, Land Surveying, and Landscape Architecture Co., D.P.C.
21 Fox Street
Poughkeepsie, NY 12601
Office: 845-454-3980

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1.0 PROJECT DESCRIPTION

1.1 Introduction

The Applicant, Lincoln Park DG LLC, seeks site plan approval pursuant to the Town of Ulster Zoning Law to construct a battery array to provide capacity and ancillary services to the regional electric grid by absorbing (charging) and generating (discharging) electricity as directed by the grid operator (Lincoln Park Grid Support Center (LPGSC)) on part of a ten-acre parcel identified as part of Tax Parcel 48.12-1-20 (Project Site) in the Town of Ulster (see Figures 1 and 2). A 20 MW battery-only energy storage facility requires approximately 25,000 battery modules with a collective capacity of approximately 80 megawatt hours (MWh), eight (8) inverters within an approximately 30,022 square foot (SF), one-story building. The battery array will be enclosed in racks with each rack containing multiple modules and each module containing individual battery cells that include on board monitoring in real time, including fire safety monitoring. The battery modules will be divided into several banks with each bank connected to a dedicated inverter. Each inverter will be connected to a transformer and the output of each transformer will be combined together at the project's pad-mounted switchgear into a single output to Central Hudson Gas & Electric (CHG&E) distribution system. This building will also include a chiller system area, a switchgear pad, and access doors at both ends of the building. A perimeter fence will surround the facility.

Connection to the CHG&E distribution system will be made via a new 1,800-foot long circuit traveling via underground cable extending from the switchgear onsite to the CHG&E 13.8kV distribution system located outside the project fence along Frank Sottile Boulevard. The cables will continue underground along Miron Lane before transitioning to overhead distribution on Miron Lane immediately west of the driveway to the Town's transfer station in the vicinity of the commercial uses (e.g. ShopRite and Kohl's). The cable will be placed in a five-foot deep by three-foot wide trench with conduits encased in concrete. The trench will be backfilled with excavated soils resulting in less than one acre of ground disturbance. The new underground cable will be contained within an existing easement or within the public right-of-way (ROW). A new overhead distribution circuit will be added to an existing distribution circuit route between the underground cable near the project site and the underground cable leaving the substation. The total length of the new overhead circuit is approximately 5,000 FT and is contained entirely within the existing ROW. It is expected that each of the approximately 35 distribution poles along the route will be replaced with new poles that are approximately five-to-ten feet taller than existing poles. Minor upgrades to the Lincoln Park Substation are anticipated to include a new circuit breaker and additional underground circuit. The utility connection work will occur in tandem with construction of the LPCSC. See Attachment A for more information.

The battery system will be a stand-alone facility with no dedicated on-site personnel; however, the facility will be routinely accessed during normal working hours for regular planned maintenance and occasionally during non-working hours for unplanned maintenance. An access road off Frank Sottile Boulevard and a parking area is proposed for access to the facility. Exterior site lighting will be minimal, used primarily for safety and security purposes, and may utilize motion and/or gate-activated technology to reduce the frequency and duration of use. Roof-mounted solar panels will provide power to the site. The overall footprint of the LPGSC will encompass 3.11 acres of the ten-acre parcel.

The Applicant is also seeking minor subdivision of three contiguous land parcels (including the LPGSC-related parcel noted above) identified as Tax Parcels 48.012-1-20, 48.016-1-1, and 48.016-1-2.21, totaling 120.92-acres and generally located south and west of the junction of State Route 32 and Frank Sottile Boulevard (Subdivision Area). The overall property boundaries will not be changed. Instead two internal

lot lines will be reconfigured to consolidate the land located south and west of Frank Sottile Boulevard into a single lot totaling 109.58 acres (Proposed Lot 1) and converting areas formally land hooked into separate lots (Proposed Lots 2 (10.425 acres) and 3 (0.911 acres). Proposed Lot 2 is the location of the proposed LPGSC. (See Attachment B) The Applicant is under contract to acquire these three tax parcels.

The LPGSC is proposed on a parcel currently zoned for Office-Manufacturing (O-M Zoning District), which permits by right utility company structures following site plan review and approval.

The battery stability system will be constructed and operated according to applicable codes and regulations, and external spill containment is not necessary as the technology is equipped with an internal containment system. There will be no dedicated personnel; therefore, there will be no personnel-related traffic, water demand or wastewater generated during operation of the facility.

Project site work is anticipated to commence in the Fall of 2019 and last approximately nine months.

1.2 Approvals

The following approvals are being sought in connection with the proposed action, including:

Table 1: Required Project Approvals

Agency	Approval/Permit
Town of Ulster Town Board	• Site Plan Review
Town of Ulster Planning Board	• Minor Subdivision; • Advisory Opinion on Site Plan; • MS4 Acceptance
Ulster County Department of Public Works (UCDPW)	• Driveway Approval; • Issuance of Highway Work Permit
Ulster County Industrial Development Agency (UCIDA)	Payment-in-Lieu-of-Taxes (PILOT) agreement
Ulster County Planning Board (UCPB)	• NYS General Municipal Law §239-m Review
New York State Department of Environmental Conservation (NYSDEC)	• SPDES General Permit for Stormwater Discharge from Construction Activity (GP-0-15-002); • Consultation regarding Endangered, Threatened and Rare Species
New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP)	• Consultation Regarding Historic and Cultural Resources
New York State Public Service Commission (NYSPSC)	• Certificate of Public Convenience and Necessity
New York State Energy Research and Development Agency (NYSERDA)	• Energy Storage Incentive
Federal Energy Regulatory Commission (FERC)	• Market Based Rate Authority; • Wholesale Generator Status
United States Fish and Wildlife Service (USFWS)	• Consultation under Section 7, Endangered Species Act

2.1 Land Use, Zoning and Public Policy

2.1.1 Land Use

The LPGSC project site is currently zoned for Office-Manufacturing (O-M Zoning District), which permits by right utility company structures following site plan review and approval (see Figure 3). One of the three parcels included in the minor subdivision (Proposed Lot 1) includes a portion that is zoned residential (R-30 (30,000 SF minimum lot size); however, no development is proposed in this area.

The proposed LPGSC will be consistent with surrounding land uses as it is surrounded by other industrial uses (see Figure 4) as noted below:

- North of the site: Ulster County Resource Recovery Agency Landfill with an approved Solar Energy Generating Facility;
- East of the site: Tilcon Minerals, Inc., mining operation due east and several 1-family and 2-family residences to the southeast along Old Flatbush Road;
- South of the site: 1-family residences on large lots and undeveloped lands of Ulster Gardens; and
- West of the site: Ulster Gardens Apartments, single-family attached and detached residential neighborhood. The homes nearest to the Project Site are located approximately 1,350 feet to the southeast and approximately 680 feet to the west.

There is an existing underground joint gas line and aboveground electric utility corridor that begins at the south property line of Proposed Lot 1, runs northward, and splits prior to crossing Frank Sottile Boulevard (CR161).

Proposed Lots 1 and 3 are not proposed for development as part of the project. For the distribution connection, the new underground cable will be contained within an existing easement or within the public right-of-way (ROW) and the new overhead wire is contained entirely within the existing ROW. As described, no impacts to local land uses will occur as part of the proposed project.

2.1.2 Zoning

The property is located within the Office Manufacturing (OM) Zoning District which permits “utility company structures” by right with site plan approval pursuant to Chapter 145 (Site Plan Review) and Chapter A196 (Site Plan Review Regulations) of the Town of Ulster Town Code. The project site is not located within the New York State Coastal Zone Boundary and is not subject to a Local Waterfront Revitalization Plan (LWRP).

Table 2 presents the bulk and dimensional requirements that apply to the property.

Table 2: Office and Manufacturing (OM) Zoning District: Bulk and Dimensional Requirements

Office and Manufacturing (OM) Zoning District	**Required**		**Proposed**
	Minimum Setback Front	40 feet	107 feet
	Minimum Setback Side	10 feet	123 feet
	Minimum Setback Rear	10 feet	95 feet
	Maximum Building Height	75 feet	< 40 feet
	Maximum Building Lot Coverage (%)	50 %	66 %
	Minimum Green Space (%)	10 %	88 %

As shown in Table 2, the proposed LPGSC is compliant with the bulk and dimensional requirements of the OM Zoning District. Proposed Lots 1 and 3 are also compliant with the bulk and dimensional requirements of the OM Zoning District.

The CHG&E connection traverses four zoning districts (Office Manufacturing (OM), Regional Commercial (RC), Highway Commercial (HC) and Residential (R-10, 10,000 SF minimum lot size)) to make the connection to the Lincoln Park Substation. The proposed replacement distribution poles are anticipated to be 55 – 60 feet tall, which is permitted in the OM, RC, and HC Districts, but not the R-10 District which regulates maximum height to be 35 feet or less. However, zoning Section 190-21(A) states that the height limitations shall not apply to transmission towers and cables. No expansion of the Lincoln Park Substation is proposed as part of the proposed project.

2.1.3 Public Policy

Town of Ulster's 2007 Comprehensive Plan

In July 2007, the Town Board adopted the Town of Ulster Comprehensive Plan ("the Plan"). An excerpt of the Plan's Vision Statement reads, "In short, this plan will ensure an enviable quality of life for future generations while the Town remains poised for continued growth with a mix of commercial, industrial, residential, rural and suburban settings." The Plan outlines the following broad land use policies:

- Maximize the return-on-investment for the Town's water and sewer districts;
- Provide for a variety of housing types in the Town;
- Open space preservation and natural resource protection;
- Expand economic opportunities for area residents; and
- Improve transportation system with particular sensitivity to safety, quality of the life, and visual appearance.

Several goals and recommendations are identified relating to housing, natural resource protection, transportation, recreational, historic and cultural resources, community facilities, agriculture and farmland, economic development, and land use and zoning. However, the Plan makes no specific recommendations about the proposed use or project site. The proposed LPGSC, battery stability system, will be constructed according to applicable local, State and Federal regulations and will not adversely impact the policies, goals and recommendations established in the Plan.

Ulster County Hudson River Valley Greenway Compact Plan, 2000

Ulster County is one of 13 counties that make up the Hudson River Valley Greenway, which was established by the State by the Hudson River Valley Greenway Act of 1991. The Greenway was created to facilitate the development of a voluntary regional strategy for preserving scenic, natural, historic, cultural and recreational resources while encouraging compatible economic development. The Town of Ulster is a Greenway Community.

The proposed action to construct the LPGSC is a permitted use within the OM Zoning District, and the proposed project complies with the bulk and dimensional requirements of the district. Therefore, the proposed project is consistent with the Greenway Compact Plan as it complies with zoning and is consistent with the Comprehensive Plan.

2.2 Soils and Geology

Table 3 provides the soil characteristics for each soil type expected to be found on the project site according to available Geographic Information Systems (GIS) information (Figure 5) and the United States Department of Agriculture Natural Resources Conservation Service (NCRS) website. The overall subdivision area is comprised of eight different soils according to NRCS. The LPGSC project site contains three of these soils: Nassau-Bath-Rock Outcrop (NBF), Volusia Very Stony Soils (VSB), and Bath Nassau Rock Outcrop (BOD). The three soil types found in the project area are shown in bold.

Table 3: Soil Types

% of SITE	SOIL SYMBOL	SOIL TYPE	SLOPES	DRAINAGE	DEPTH TO WATER TABLE (FT)	DEPTH TO BEDROCK (INCHES)
40%	**NBF**	**Nassau-Bath Rock outcrop complex, very steep**	**---**	**---**	**---**	**---**
		Nassau (35%)	**25 - 65%**	**somewhat excessively**	**>80**	**10 - 20 to lithic BR**
		Bath (25%)	**25 - 45%**	**well**	**24 to 37**	**26 - 38 to fragipan; 40 - 80 to lithic BR**
		Rock outcrop (20%)	**---**	**---**	**---**	**0**
27%	**BOD**	**Bath-Nassau-Rock outcrop complex, hilly**	**---**	**---**	**---**	**---**
		Bath (40%)	**10 - 25%**	**well**	**24 to 37**	**26 - 38 to fragipan; 40 - 80 to lithic BR**
		Nassau (25%)	**10 - 25%**	**somewhat excessively**	**>80**	**10 - 20 to lithic BR**
		Rock outcrop (15%)	**---**	**---**	**---**	**0**
13%	BnC	Bath-Nassau complex, 8 to 25% slopes	**---**	**---**	**---**	**---**

% of SITE	SOIL SYMBOL	SOIL TYPE	SLOPES	DRAINAGE	DEPTH TO WATER TABLE (FT)	DEPTH TO BEDROCK (INCHES)
		Bath (50%)	8 - 25%	well	24 to 37	26 - 38 to fragipan; 40 - 80 to lithic BR
		Nassau (30%)	8 - 25%	somewhat excessively	>80	10 to 20 to lithic BR
12%	Cd	Canandaigua silt loam, till substratum	0 - 1%	very poorly	0	>80
4%	MgB	Mardin-Nassau complex, 3 to 8% slopes	---	---	---	---
		Mardin (55%)	3 - 8%	moderately well	13 to 24	14 - 26 to fragipan; >72 to BR
		Nassau (25%)	3 - 8%	somewhat excessively	>80	10 - 20 to lithic BR
3.5%	**VSB**	**Volusia very stony soils, gently sloping**	**0 - 8%**	**somewhat poorly**	**6 to 18**	**10 - 20 to fragipan; >72 to BR**
0.3%	Pa	Palms muck	0 - 2%	very poorly	0	>80
0.2%	STD	Stockbridge-Farmington-Rock outcrop complex, hilly	---	---	---	---
		Stockbridge (30%)	15 - 25%	well	>80	40 - 80 to lithic BR
		Farmington (30%)	15 - 25%	somewhat excessively	>80	10 - 20 to lithic BR
		Rock outcrop (20%)	---	---	---	---

Preparation of the land for project development will require clearing, grubbing, grading, ripping, hoe ramming, the potential for blasting, and proof-rolling any lightly disturbed natural soils left in-place following completion of excavation activities. It is anticipated that most excavation work could be accomplished using conventional equipment and techniques (i.e. backhoes, scrapers, excavators, or dozers) based on the physical characteristics, relative density of the strata observed, and the anticipated excavation limits. Localized excavation of bedrock may be necessary to achieve desired subgrade elevations. Based upon the type of bedrock (limestone), removal activities may not be achievable by ripping and hoe ramming alone and may require drilling and/or blasting with dynamite.

For the distribution connection, the new underground cable will be contained within an existing easement or within the public right-of-way (ROW) in an area previously disturbed by road construction or other utility installation.

2.3 Wetlands, Surface Waters, and Stormwater

2.3.1 Wetlands and Surface Waters

According to the NYSDEC Environmental Resource Mapper, the subdivision area includes a NYSDEC regulated wetland (KE-10, Class 2) and a regulated stream (862-506, Class C). No NYSDEC regulated wetlands or streams were identified on the LPGSC project site. The National Wetlands Inventory, which is not a regulatory map but may be used for identifying potential wetlands identifies several potential wetlands on the subdivision area but none on the LPGSC project site. See Figure 6 for more information.

On December 11, 2018 Chazen environmental scientists delineated the boundaries of wetlands in the LPGSC project site. The flags used to mark the location of the boundaries were located and mapped by Chazen land surveyors on January 25, 2019 (see Attachment C).

Following are brief description of the wetlands delineated in the Project Study Area:

- Wetland A: is to the east of Frank Sottile Boulevard. The wetland was mostly inundated at the time of the delineation. This wetland contains open water and forested habitats.

- Wetland B: is to the east of Frank Sottile Boulevard. The wetland was partially inundated at the time of the delineation. This wetland contains forested habitat.

- Wetland C: is to the east of Frank Sottile Boulevard. The wetland was partially inundated at the time of the delineation. This wetland contains open water and forested habitats. This wetland flows into a stream channel north of the Project Study Area outside of the Project parcel.

- Wetland D: is to the east of Frank Sottile Boulevard. The wetland was partially inundated at the time of the delineation. This wetland contains forested habitat.

- Wetland E: is to the east of Frank Sottile Boulevard. The wetland was not inundated at the time of the delineation. This wetland contains scrub shrub habitat.

Table 4: Delineated Wetlands

Wetland or Stream	On-site area (acres) or length (l.f.)	Cowardin Class	Stream Type
Wetland A	0.37	PFO/PUB	N/A
Wetland B	0.06	PFO	N/A
Wetland C	0.24	PFO	N/A
Wetland D	0.19	PFO	N/A
Wetland E	0.04	PSS	N/A

The project has been designed to avoid impacts. Therefore, no impacts to wetlands will occur as part of the proposed development of the LPGSC project site, the minor subdivision or the connection to CHG&E distribution system (which will occur within the public ROW or an existing easement).

2.3.2 Stormwater

Project construction activities will consist primarily of site grading, the installation of a battery storage building, storm drainage facilities, and utility infrastructure necessary to support the proposed development. The project is proposed to disturb greater than one acre to accommodate the proposed development. Therefore, a SWPPP is required under NYSDEC General Permit GP-0-15-002. The connection to the CHG&E distribution system will involve less than one acre of ground disturbance.

The stormwater pollution controls have been designed and evaluated in accordance with the following standards and guidelines:

- New York State Stormwater Management Design Manual, dated January 2015 (Design Manual).
- New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016 (SSESC).

Stormwater quality will be enhanced through the implementation of temporary and permanent erosion and sediment control measures, the proposed stormwater management facilities, and other construction-phase pollution controls. The proposed stormwater collection system consisting of pipes, underdrains, and on-site stormwater management facilities will adequately collect, treat, and convey the stormwater runoff through the site. Drainage piping routing stormwater to a bioretention basin and a separate detention basin with overflow discharges will be used to manage and treat stormwater runoff generated by the proposed project development.

Pre- and post-development surface runoff rates have been evaluated for the 1-, 10-, and 100-year 24-hour storm events. Comparison of pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the project site will not be increased.

This project is located within the Town of Ulster regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Therefore, an MS4 SWPPP Acceptance Form is required to accompany NOIs submitted to the NYSDEC.

2.4 Environmental Site Conditions

The NYSDEC Environmental Assessment Form (EAF) Mapper tool was used to auto-fill portions of the Full Environmental Assessment Form (FEAF) Part 1. One remediated site was identified by the NYSDEC as being located within 2,000 feet of the project site. This site is identified as the Office Depot Shopping Center, which is impacted by tetrachloroethene from a dry-cleaning facility. This site will not impact the LPGSC project because it has been remediated. The Spills Incidents Database was reviewed, and no spills were identified as having occurred at the project site.

The LPGSC project site is located immediately south of a former Town of Ulster landfill. According to the 2018 Annual Post-Closure Monitoring Report, the facility closed in December 1997. As part of the post-closure monitoring and maintenance for the landfill one monitoring well (SBW-4) and three (3) PVC piezometers were installed on the LPGSC project site to monitor groundwater. A request to decommission and abandon the monitoring wells was made by the Ulster County Resource Recovery Agency (UCRRA) to NYSDEC and permission was granted since onsite groundwater quality is consistent and stable south of the closed Town of Ulster Landfill with no evidence of offsite landfill gas migration. The Applicant proposes to partially remove one piezometer, which extends to 18.7 feet below the existing subgrade of the

proposed building. The well will be cut down to subgrade level beneath the proposed building and the remaining shaft will be filled with bentonite. The abandonment of the aforementioned wells will occur during construction and documentation will be provided to UCRRA to document that the wells were decommissioned in accordance with applicable State standards. UCRRA will then convey this information to the NYSDEC. The remaining wells on site will be abandoned in place. See Attachment D for more information.

2.5 Natural Resources

According to the NYSDEC Environmental Resource Mapper, the project site is located within an area that may provide habitat for rare plants and animals (see Figure 7). The New York Natural Heritage Program (NYNHP) responded to an information request with a letter dated March 19, 2019 (Attachment E), which stated that within two miles of the project site is a documented hibernaculum of Northern long eared bat (State threatened species). Regarding northern long-eared bats, it is noted that there are no identified summer occurrence records of maternity roost trees in Ulster County, per the NYSDEC website.[1]

The United States Fish and Wildlife Information for Planning and Consultation (IPAC) website indicates the possible presence of three species: the Indiana Bat (Federal endangered species), the NLEB (Federal threatened species), and the Bog Turtle (Federal threatened species) (Attachment E).

Habitat requirements for the ETR species identified above are provided below in Table 5.

Table 5: Suitable Habitat Requirements for Potential ETR Species

Species Name	Regulatory Status	Preferred Habitat
Indiana bat[a] (*Myotis sodalis*)	Federally and State-listed Endangered	Suitable summertime roosting habitat is characterized by wooded areas with trees that have sun exposure for at least half of the day, are ≥ 5 in. diameter at breast height (dbh), and exhibit specific physical traits (e.g., exfoliating bark, crevices, dead limbs, snags). Hibernation sites include caves and mines with stable temperatures and relatively high humidity (usually above 74%) for overwintering. Suitable foraging habitat includes riparian/floodplain forests, upland forests, as well as open fields and pastures with scattered trees.
Northern long-eared bat[a] (*Myotis septentrionalis*)	Federally-listed Threatened; State-listed Threatened	The reproductive habits of this bat are not well known. It is believed that they behave similarly to the Indiana bat, with the females congregating in maternity colonies in the spring, often using trees with cavities, crevices, and loose bark for daytime roosts. They may also roost in buildings and behind shutters. They are associated with mature interior forest and may prefer foraging on forested ridges and hillsides.

[1] NYSDEC. 2018. NYSDEC Website - Protection of Northern Long-eared Bats. https://www.dec.ny.gov/animals/106090.html

Species Name	Regulatory Status	Preferred Habitat
Bog turtle[a] (*Clemmys* [*Glyptemys*] *muhlenbergii*)	Federally-listed Threatened; State-listed Endangered	Usually found in association with fens, which are wetlands dominated by herbaceous vegetation and that receive calcareous groundwater discharge through seepage and small streams (rivulets). Other habitats include open-canopy wet meadows, cow pastures, shrub swamps and forested wetlands with emergent wetland openings. As with fens, these wetlands usually have small rivulets fed by groundwater, deep muck soils and emergent vegetation with exposure to the sun, especially with abundant sedges.
[a]Sources: New York Natural Heritage Program. 2017. Online Conservation Guides. Available from: http://www.acris.nynhp.org.		

Following are descriptions of the plant communities found on the LPGSC project site, as defined according to the ecological community classification system used by the New York Natural Heritage Program (Edinger et al. 2014). These descriptions are provided for general information relative to habitat requirements of endangered species.

- Appalachian Oak-hickory forest: The majority of this site is forested and includes rolling topography. Shallow bedrock was encountered throughout the site and the trees are likely old growth with moderate size due to the root restriction. The forest on-site is dominated by mature trees including chestnut oak, red oak, white oak, shagbark hickory, sugar maple, and black cherry. A sparse herbaceous layer included wintergreen, spotted wintergreen, and Christmas fern. This community is throughout the Project Site. See Attachment E, Photo 3, 4, 7, 8, 11, 12, 15 and 16.

- Red Maple-hardwood swamp: Several of the wetland systems found on-site can be categorized as red maple hardwood swamps, including Wetland A, B, C, and D. These wetlands lie within depressions and one (Wetland C) is associated with an off-site stream. The wetlands are dominated by red maple, American hornbeam, and sensitive fern. highbush blueberry, and spicebush were the main shrubs identified in these wetlands. See Attachment E, Photos 1, 2, 5, 6, 9, and 13.

- Shrub swamp: One of the wetland systems found on-site can be categorized as a shrub swamp, Wetland E. This wetland lies within a depression. The wetland is dominated by spicebush, highbush blueberry, and sensitive fern. Highbush blueberry and spicebush were the main shrubs identified.

The LPGSC project site was assessed for potential habitat and the presence of protected species on December 11, 2018 (see Attachment E for more information). The following summarizes the potential occurrence and impacts to species and habitat relevant to the LPGSC project site. No impacts will occur to these species as part of the minor subdivision involving proposed Lots 1 and 3 as no construction is planned. No impacts to these species is anticipated to occur due to the connection to the CHG&E distribution system as it will occur within the public ROW or an existing easement.

Indiana Bat: The USFWS identifies both the Indiana bat and the Northern Long-Eared Bat in the range of the LPGSC project site and overall subdivision area. There is a hibernaculum identified by the NYSDEC within 1.5 miles of the LPGSC project site and overall subdivision area, but it is not identified as containing

Indiana bat. There are no NYSDEC records of summer occurrence for Indiana bat within the LPGSC project site and overall subdivision area. The project will involve the removal of approximately 2.73 acres of trees for the facility, parking lot, driveway, and stormwater management area but no significant habitat removal (i.e., not greater than 10 acres of trees) given the managed nature of the landscape. In order to ensure no take of Indiana bat, any removal of trees greater than 3" dbh will occur between November 1 and March 31 when bats are in hibernacula. Therefore, a Determination of No Effect is made for this species under Section 7 of the federal Endangered Species Act. There is no coordination needed with the NYSDEC, as there are no occurrence records on site.

Northern Long-eared Bat: The northern long-eared bat was identified by the NYSDEC in occurrence records as there is a hibernaculum 1.5 mile distant from the site. There is no NYSDEC record of summer occurrences of Indiana or northern long eared bat in the vicinity of the LPGSC project site and overall subdivision area. The USFWS identifies the northern long-eared bat as a winter occurrence in the range of the LPGSC project site and overall subdivision area. The project will not impact the hibernacula, located 1.5 miles distant from the site. The project will involve the removal of approximately 2.73 acres of trees for the facility, parking lot, driveway, and stormwater management area, but no significant habitat removal (i.e., not greater than 10 acres of trees) given the managed nature of the landscape. Any removal of trees greater than 3" dbh will occur between November 1 and March 31, when bats are in hibernacula. A Determination of No Effect is identified under Section 7 of the federal Endangered Species Act. This timeframe is consistent with the NYSDEC protection of northern long-eared bats guidelines, and no additional review is required.

Bog turtle: This is a species that is state-listed endangered and federally-listed as threatened. The USFWS identifies this species as being in the range of the LPGSC project site and overall subdivision area. The species was not identified in the NYNHP occurrence record data for the LPGSC project site and overall subdivision area. The closest known record for this species is 30 miles to the south. Given the lack of records by the NYSDEC, this is a USFWS issue only. Wetlands on-site were evaluated by a USFWS qualified bog turtle surveyor and did not meet the suitability criteria for vegetation, hydrology, or soils. Given the species habitat requirements and the lack of suitable habitat within wetlands in the LPGSC project site and overall subdivision area, this species is not anticipated to be found in the project site. A Determination of No Effect is identified under Section 7 of the federal Endangered Species Act.

2.6 Historic and Cultural Resources

According to the NYSOPRHP Cultural Resource Information System (CRIS), the project site does not include any National or State Register of Historic Places listed or eligible resources, nor is the site located substantially contiguous to a listed or eligible resource (see Figure 8). The site is located within an area that is considered to be archeologically sensitive.

A Phase 1 Archaeological Investigation Report was prepared by Hartgen Archeological Associates, Inc. in December 2017 (see Attachment F). The study for the report included a Phase IA Literature Review and Archeological Sensitivity Assessment that applies to the LPGSC project site and the overall subdivision area. Hartgen conducted research using the New York State Cultural Resource Information System (CRIS), which is maintained by the New York SHPO and the Division for Historic Preservation DHP within OPRHP. CRIS contains a comprehensive inventory of archeological sites, State and National Register properties, properties determined eligible for the National Register, and previous cultural resource surveys. An examination of CRIS identified 33 reported archeological sites within one mile (1.6 km) of the Project.

Seventeen precontact sites are located within a mile of the project area. Two of the sites are located north and south of the project area.

Based on this information, it was determined that a shovel testing program will be an appropriate approach to characterizing the archaeological remains in the LPGSC project site or Area of Potential Effect (APE). A total of 96 shovel tests were excavated in dry and relatively level areas of the APE. Most were located along the tops of the various ridges running north/south across the site. They were excavated to an average depth of 32 cm. Eleven of the tests excavated were positive for Precontact remains. A total of 15 pieces of light to dark grey, lithic debris (shatter and block flakes) were recovered along with two cores.

The January 2019 Phase 1B Archaeological Field Reconnaissance Report (see Attachment F) states that the presence of numerous artifacts suggesting chert quarrying, indicates that additional Phase II testing of the identified site area is appropriate. The Report states that testing should include reduced interval testing around positive tests, excavation of 6-7 stratigraphic units and raking to clear away leaf litter followed by surface survey to identify any exploited chert outcrops (especially of the steep slope along the east side of the site).

In a February 6, 2019 letter, NYSOPRHP identified the Lincoln Park Precontact Site archaeological site with a Unique Site Number (USN 11118.000104) and recommended that this site should be protected from disturbance or, if that is not feasible, it should be subjected to a Phase II evaluation to determine its eligibility for listing on the State/National Register of Historic Places. NYSOPRHP requested submittal of a site avoidance plan or a Phase II work plan for review and comment prior to implementation. A Phase II work plan was accepted on February 12, 2019 by NYSOPRHP and the additional investigation is scheduled to begin as soon as weather permits.

No impacts will occur to historic or cultural resources as part of the minor subdivision involving proposed Lots 1 and 3 as no construction is planned. No impacts are anticipated to occur due to the connection to the CHG&E distribution system as it will occur within the public ROW or an existing easement.

2.7 Sound

A sound level analysis was conducted to determine the future sound levels that will occur during the operation of the LGCSC facility. Equipment data was provided by the Applicant which identified the sound levels of the proposed equipment as follows:

- HVAC =89dB. Measured at a distance of 0.98 FT from the point source.
- Transformer = 55dB., Measured at a distance of 0.98 FT from the point source.
- Inverter = 66.4 dB. Measure at a distance of 32.81 FT from the point source.

Using the equipment data, an analysis was conducted to determine the sound level at the nearest sensitive receptor, which is a residence located off Riseley Street approximately 1,480 FT west of the transformer and inverter location and approximately 1,589 FT west of the HVAC location for the LPGSC (See Attachment G). Undeveloped area located between the proposed LPGSC site and the residence is mostly wooded with undulating topography.

Considering the operation of all three pieces of equipment concurrently, the combined sound level at the nearest residence is calculated to be 33.88 A-weighted decibels (dBA) during the operation of the LPGSC.

The maximum permissible sound levels as stipulated in Chapter 117-3, Noise, of the Town Code are presented in Table 6.

Table 6: Maximum Permissible Sound Levels by Receiving Property Category

	Receiving Property Category			
Sound Source Property Category	Residential 7:00 AM – 10:00 PM	Residential 10:00 PM – 7:00 AM	Nonresidential 7:00 AM – 10:00 PM	Nonresidential 10:00 PM – 7:00 AM
Residential	72 dBA	66 dBA	72 dBA	66 dBA
Nonresidential	72 dBA	66 dBA	72 dBA	66 dBA

As shown in Table 6, the maximum permissible sound level at the residence located nearest to the LPGSC is 71 dBA during the day (7:00 AM – 10:00 PM) and 66 dBA at night (10:00 PM – 7:00 AM). The operation of the LPGSC will result in 33.88 dBA at the residence, which is far below the maximum permissible sound level; therefore, no negative impacts from operational sounds from the LPGSC are anticipated to occur.

FULL ENVIRONMENTAL ASSESSMENT FORM (FEAF) PART 1 FORM

FULL ENVIRONMENTAL ASSESSMENT FORM (FEAF) PART 1 FORM

Instructions for Completing Part 1

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

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

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

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Lincoln Park Grid Support Center (LPGSC)		
Project Location (describe, and attach a general location map): Miron Lane/Frank Sottile Boulevard/NYS Route 32, Town of Ulster, Ulster County, NY; Tax parcels 48.012-1-20, 48.016-1-1, and 48.016-1-2.21.		
Brief Description of Proposed Action (include purpose or need): See attached project description.		
Name of Applicant/Sponsor: Lincoln Park DG LLC (Peter Rood, Chief Development Officer)	Telephone: 651-494-4939 E-Mail: prood@glidepath.net	
Address: 132 North York Street, Suite 3L		
City/PO: Elmhurst	State: IL	Zip Code: 60126
Project Contact (if not same as sponsor; give name and title/role):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Kingston Landing Development, LLC	Telephone: 917-414-1350 E-Mail:	
Address: 1 Executive Boulevard		
City/PO: Yonkers	State: NY	Zip Code: 10701

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	Site Plan Review	Winter 2019
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Advisory Opinion on Site Plan; Minor Subdivision; MS4 Acceptance	Winter 2019
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No		
e. County agencies ☑Yes ☐No	Department of Public Works (Driveway Approval and Highway Work Permit); PILOT; 239-m Review	Winter 2019
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSDEC (SPDES GP-0-15-002; Consultation - Regulated Species); NYSOPRHP (Consultation)	Winter 2019
h. Federal agencies ☑Yes ☐No	NYSPSC (Certificate of Public Convenience and Necessity) Federal Energy Regulatory Commission (Market Based Rate Authority; Exempt Wholesale Generator Status approval) USFWS (Section 7 Consultation)	Winter 2019 Winter 2019 Winter 2019

i. Coastal Resources.

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

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

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

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

Hudson River Valley National Heritage Area; Ulster County Hudson River Valley Greenway Compact Plan.

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

If Yes, identify the plan(s):

C.3. Zoning

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

Most of the subdivision area site is located in the Office Manufacturing (OM) zoning district, except for the southernmost portion of Proposed Lot 1, which is located in the Residential 30,000 SF (R-30) zoning district. The LPGSC project site is located in the OM Zoning District.

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

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

C.4. Existing community services.

a. In what school district is the project site located? Kingston School District

b. What police or other public protection forces serve the project site?
Town of Ulster Police Department with support from Ulster County Sheriff's Department and NYS Police

c. Which fire protection and emergency medical services serve the project site?
Ulster Fire District # 5 (except easternmost parcel is in the East Kingston Fire District)

d. What parks serve the project site?
N/A

D. Project Details

D.1. Proposed and Potential Development

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

b. a. Total acreage of the site of the proposed action? 120.92 acres Subdivision area and LPGSC project site
b. Total acreage to be physically disturbed? 3.11 acres LPGSC project site only; 17,400 SF for connection to CHG&E distribution system.
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 120.92 acres

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

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Minor Subdivision: Lot line adjustment with no change to total acreage.
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 3
iv. Minimum and maximum proposed lot sizes? Minimum 0.91 ac Maximum 109.58 ac

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 9 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐ Yes ☑ No

If Yes, show numbers of units proposed.

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

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 1 Building

ii. Dimensions (in feet) of largest proposed structure: 26 height; 100 width; and 330 length

iii. Approximate extent of building space to be heated or cooled: Approximately 30,022 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☑ No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion:_____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐Yes ☑No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐Yes ☐No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No
- Do existing lines serve the project site? ☐Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☐No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

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

_____

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

d. Will the proposed action generate liquid wastes? ☐Yes ☑No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes ☐No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No

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

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

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

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

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

_____

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

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

If Yes:

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

_____ Square feet or 1.23 acres (impervious surface) LPGSC project site only

_____ Square feet or 120.9 acres (parcel size)

ii. Describe types of new point sources. New discharge from stormwater management facilities to level spreader.

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

Stormwater management facilities.

- If to surface waters, identify receiving water bodies or wetlands: USACOE Wetland D – ultimately the Hudson River
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

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

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

If Yes, identify:

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

None.

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

Temporary sources during construction from excavators, bulldozers, skid steers, and rollers.

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

None.

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

If Yes:

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

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

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

If Yes:

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

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

_____

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

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

_____

_____

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

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend

☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

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

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

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

_____

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

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

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

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

Project will provide energy reserves for on-demand release to the electrical grid.

If Yes:

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

_____

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

_____

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

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

i. During Construction:

- Monday - Friday: 7 AM - 9 PM
- Saturday: 7 AM - 9 PM
- Sunday: None
- Holidays: None

ii. During Operations:

- Monday - Friday: 24 Hours
- Saturday: 24 Hours
- Sunday: 24 Hours
- Holidays: 24 Hours

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

If yes:

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

Temporary impacts from construction equipment will occur.

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

Describe: 2.73 acres of natural vegetation will be cleared to construct the LPGSC. However, the closest residence is 680 feet from the project site, and this area will remain forested.

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

If yes:

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

Minimal lighting for security purposes will be provided. Exact fixture types are to be determined but will comply with Town regulations and International Dark Sky Association (IDSA) requirements. Facility is minimum of 680 feet from the nearest residence.

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

Describe: 2.73 acres of natural vegetation will be cleared to construct the LPGSC. However, the closest residence is 680 feet from the project site, and this area will remain forested.

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

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

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

If Yes:

i. Product(s) to be stored _____

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

iii. Generally, describe the proposed storage facilities: _____

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

If Yes:

i. Describe proposed treatment(s):

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

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

If Yes:

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

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

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

- Construction: _____
- Operation: _____

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

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

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

a. Existing land uses.

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

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): Recreation/entertainment; public services, landfill

ii. If mix of uses, generally describe:

Commercial (shopping centers, department stores, restaurants), auto dealerships, bus terminal, industrial, residential, landfill

b. Land uses and covertypes on the project site. All: Information provided for all three tax parcels. LPGSC: Areas used for LPGSC only.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces (including gravel)	0.5 (All), 0 (LPGSC)	All - same, 1.23 (LPGSC)	+1.23 (LPGSC)
• Forested	98.22 (All), 9.46 (LPGSC)	All - same, 6.73 (LPGSC)	-2.73 (LPGSC)
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.0 (All), 0.0 (LPGSC)	All - same, 0.0 (LPGSC)	0.0 (LPGSC)
• Agricultural (includes active orchards, field, greenhouse etc.)	0.0 (All), 0.0 (LPGSC)	All - same, 0.0 (LPGSC)	0.0 (LPGSC)
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.2 (+2.3 in wetlands) (All), 0.0 (LPGSC)	All - same, 0.0 (LPGSC)	0.0 (LPGSC)
• Wetlands (freshwater or tidal)	16.8 (All), 0.9 (LPGSC)	All - same, 0.9 (LPGSC)	0.0 (LPGSC)
• Non-vegetated (bare rock, earth or fill)	5.2 (All), 0.1 (LPGSC)	All - same, 0.1 (LPGSC)	0.0 (LPGSC)
• Other Describe: Lawn Area.	0.0 (All)	All - same, 1.5 (LPGSC)	+1.5 (LPGSC)

* Total of 16.8 acres within numerous separate smaller wetlands.

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☑ No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☑ Yes ☐ No

If Yes:

i. Has the facility been formally closed? ☑ Yes ☐ No

- If yes, cite sources/documentation: Town of Ulster Landfill, Closed December 1997 according to 2018 Annual Post-Closure Monitoring Rp

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

The LPGSC project site area is located immediately south of the former landfill.

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

None anticipated. The LPGSC will not utilize groundwater. Construction and operation of the site will follow all applicable laws and regulations.

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☑ No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): 356048

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

Site 356048 Office Depot Shopping Center, Classification = 02, tetrachloroethene from dry cleaning facility.

_____

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

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

E.2. Natural Resources On or Near Project Site Information provided here for LPGSC only, see Figure 5 for soil information for overall site.

a. What is the average depth to bedrock on the project site? 0 - > 6 feet

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

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

Nassau-Bath-Rock Outcrop (NBF)	40 %
Volusia Very Stony Soils (VSB)	20 %
Bath-Nassau-Rock Outcrop (BOD)	40 %

d. What is the average depth to the water table on the project site? Average: 0 - > 6 feet

e. Drainage status of project site soils:
☑ Well Drained: 80 % of site
☐ Moderately Well Drained: _____ % of site
☑ Poorly Drained 20 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 20 % of site
☑ 10-15%: 40 % of site
☑ 15% or greater: 40 % of site

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

h. Surface water features.

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

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

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

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

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

- Streams: Name 862-506 Stream is not located on portion of site proposed for LPGSC project site. Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, NYS Wetland, Federal Waters, Fe... Approximate Size NYS Wetland (in a...
- Wetland No. (if regulated by DEC) KE-10 NYSDEC Wetland is not located on portion of site proposed for LPGSC project site.

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

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

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

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

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

If Yes:

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

ii. Source(s) of description or evaluation:

iii. Extent of community/habitat:

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

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

If Yes:

i. Species and listing (endangered or threatened):

Northern Long-eared Bat

Approximately 2.73 acres of clearing (less than ten acres) would occur as part of the proposed project. To avoid potential take of this species tree clearing will be limited to November 1 - March 31.

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

If Yes:

i. Species and listing:

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

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

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

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

If Yes, provide county plus district name/number:

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

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

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

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

If Yes:

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

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

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

If Yes:

i. CEA name:

ii. Basis for designation:

iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☑ Yes ☐ No

If Yes:

i. Describe possible resource(s): Precontact remains - 15 pieces lithic debris and two cores discovered during Phase 1B; Phase 2 underway.

ii. Basis for identification: Phase 1B Archaeological Field Reconnaissance, Hartgen Archaeological Associates.

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: See Figure 9.

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): SASS, State Parks and Recreation, NYS Scenic Byway, Scenic Trails, State and National Register Listed Sites, Municipal Recreation

iii. Distance between project and resource: 0.5 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

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

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

G. Verification

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

Applicant/Sponsor Name Lincoln Park DG, LLC Date January 31, 2019

Signature _____ Title _____

PRINT FORM

EAF Mapper Summary Report

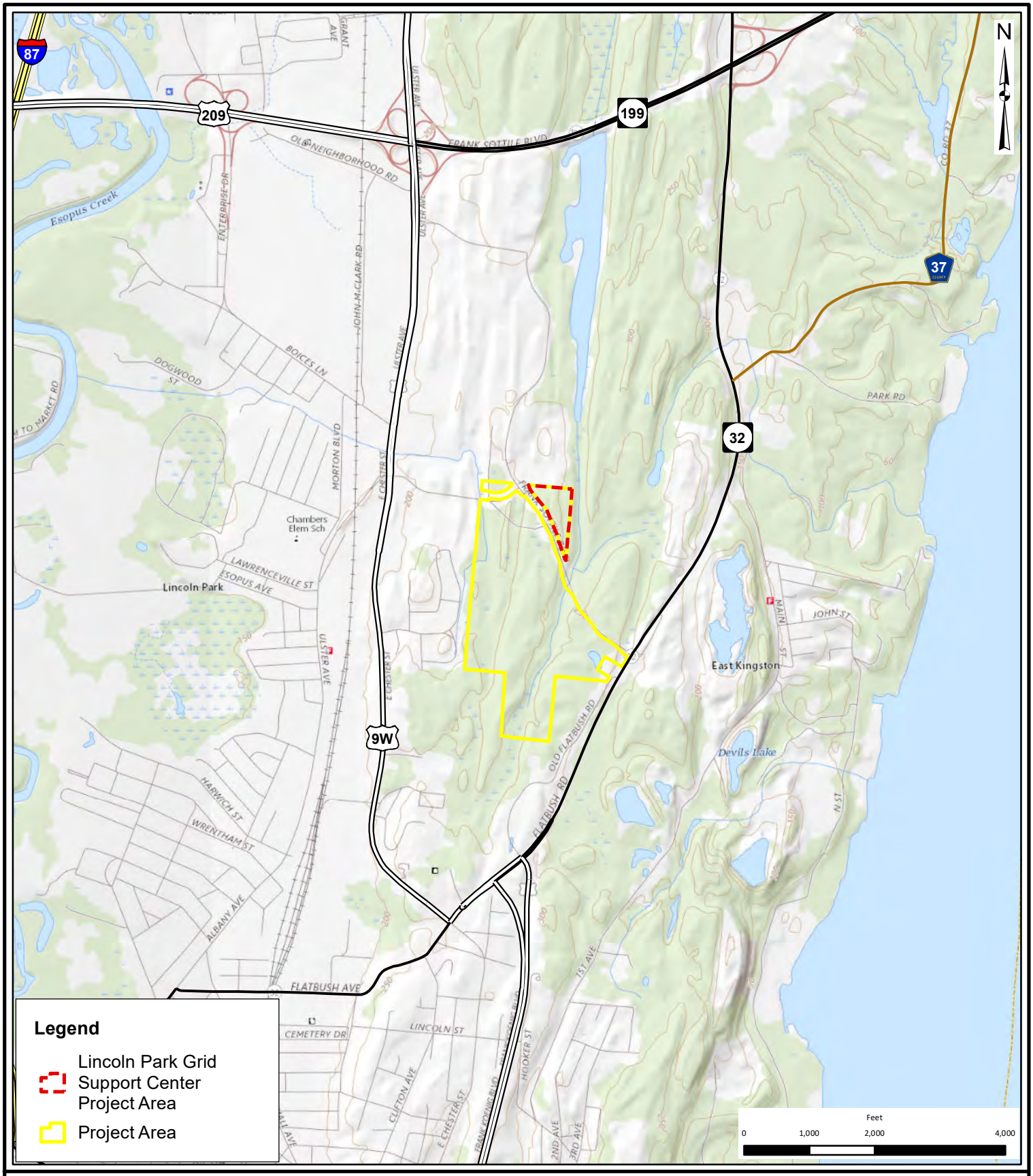
Tuesday, January 29, 2019 12:25 PM

Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	356048
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	862-506
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):32.6

E.2.h.iv [Surface Water Features - DEC Wetlands Number]	KE-10
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Long-eared Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

FIGURES



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Capital District Office:
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Phone: (518) 273-0055

North Country Office:
20 Mill St, Ste 110
Glens Falls, NY 12801
Phone: (518) 812-0513

Lincoln Park Grid Support Center

USGS Location Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 2,000 feet
Project:	31788.05
Figure:	1

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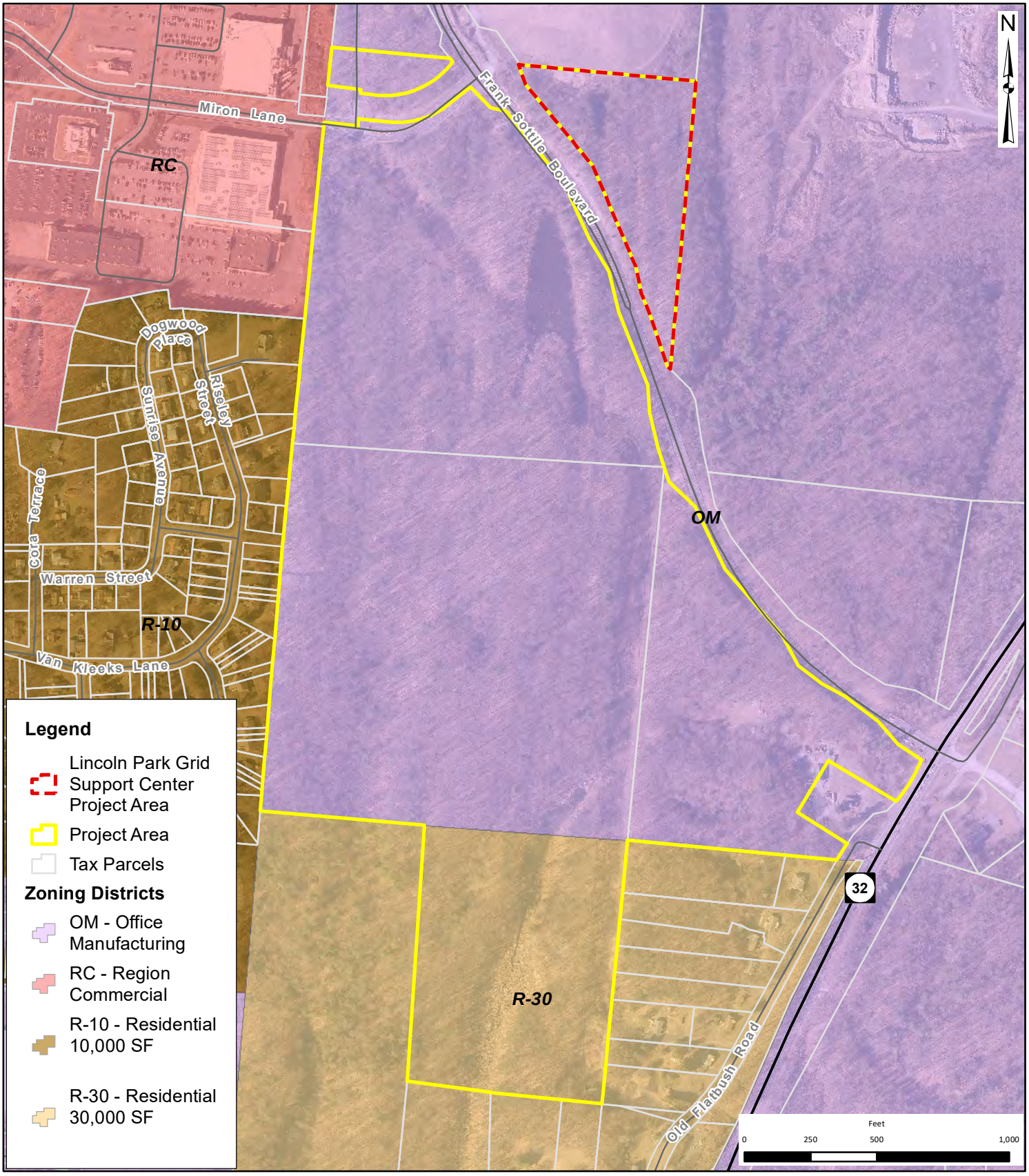
Lincoln Park Grid Support Center

Orthophoto Tax Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 500 feet
Project:	31788.05
Figure:	2



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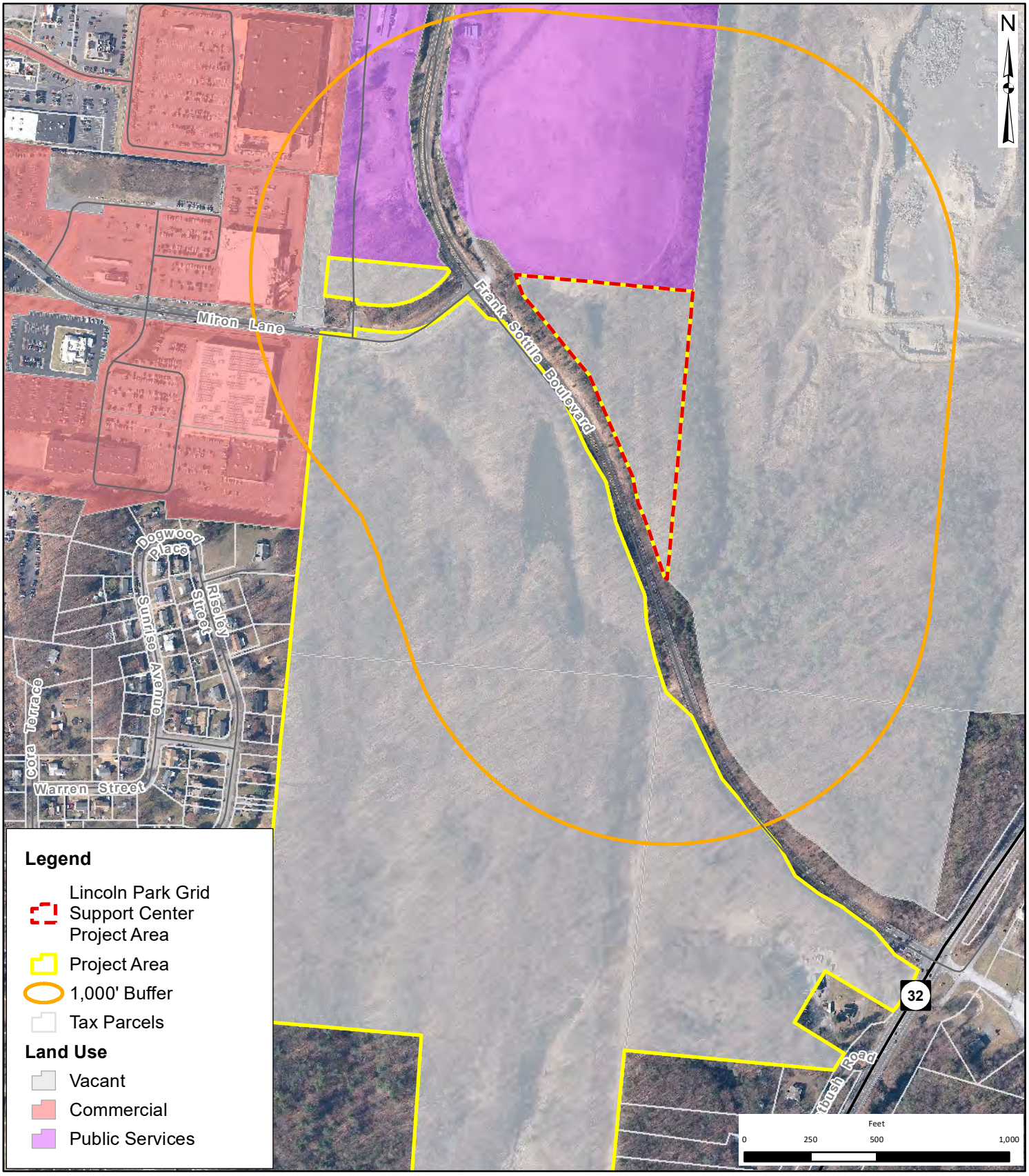
Lincoln Park Grid Support Center

Zoning Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 500 feet
Project:	31788.05
Figure:	3



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Glens Falls, NY 12801
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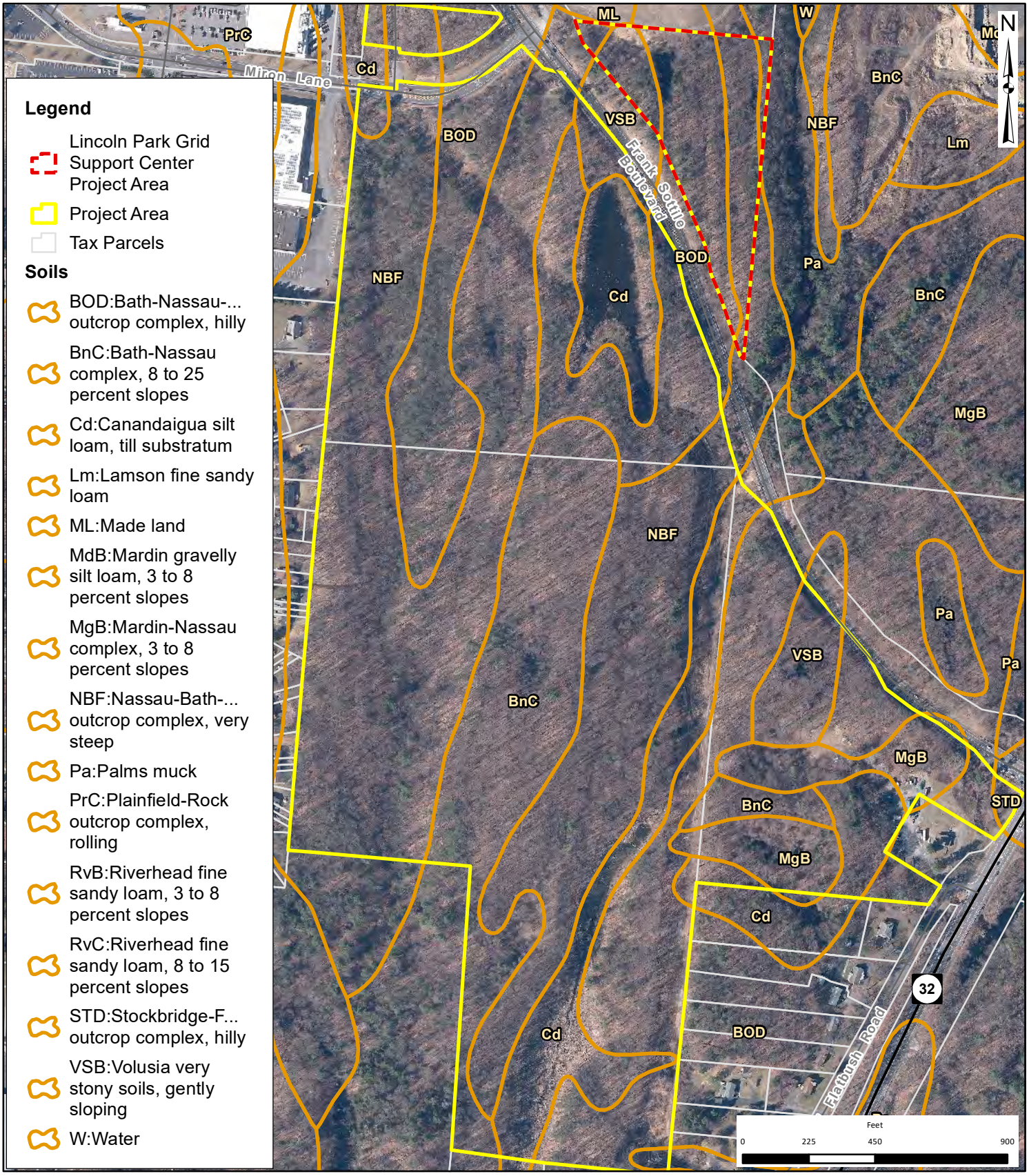
Lincoln Park Grid Support Center

Land Use Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 500 feet
Project:	31788.05
Figure:	4



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Lincoln Park Grid Support Center

Soils Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 450 feet
Project:	31788.05
Figure:	5

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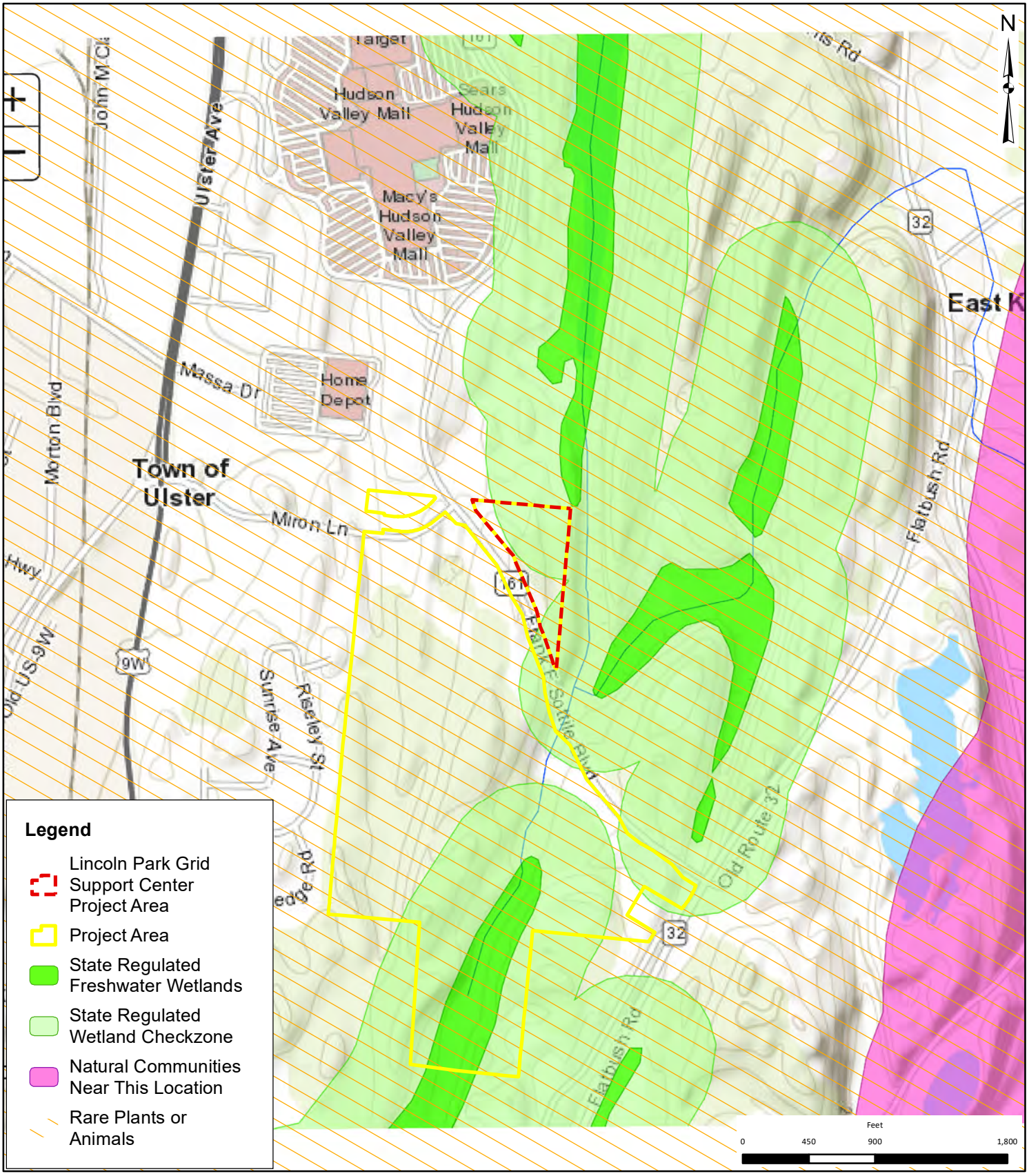
Phone: (518) 812-0513

Lincoln Park Grid Support Center

Wetland and Streams Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 500 feet
Project:	31788.05
Figure:	6



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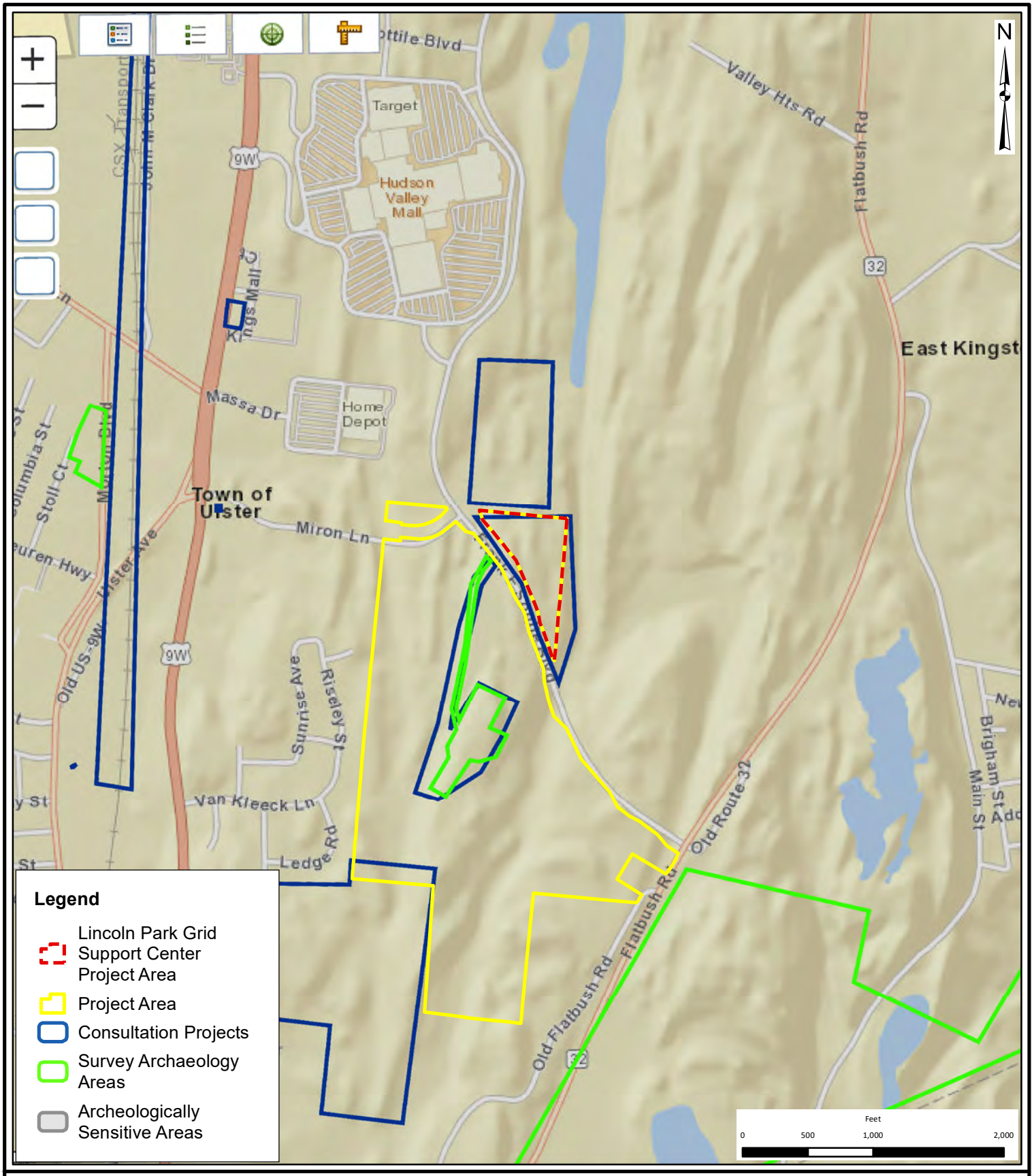
Lincoln Park Grid Support Center

NYSDEC Environmental Resource Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 900 feet
Project:	31788.05
Figure:	7



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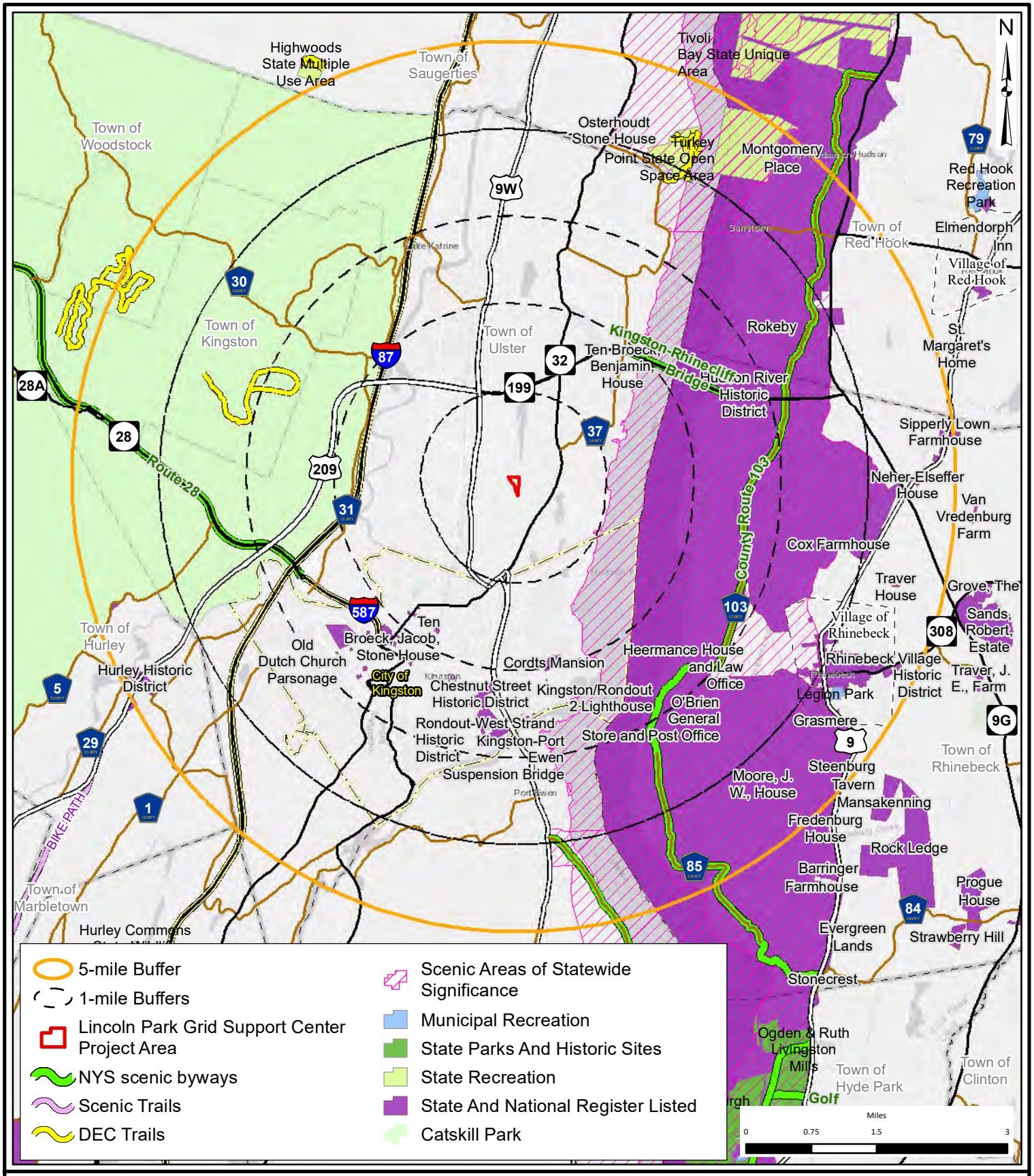
Lincoln Park Grid Support Center

NYSOPRHP Cultural Resource Information System (CRIS) Map

State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RLB
Date:	01/25/2019
Scale:	1 in = 1,000 feet
Project:	31788.05
Figure:	8



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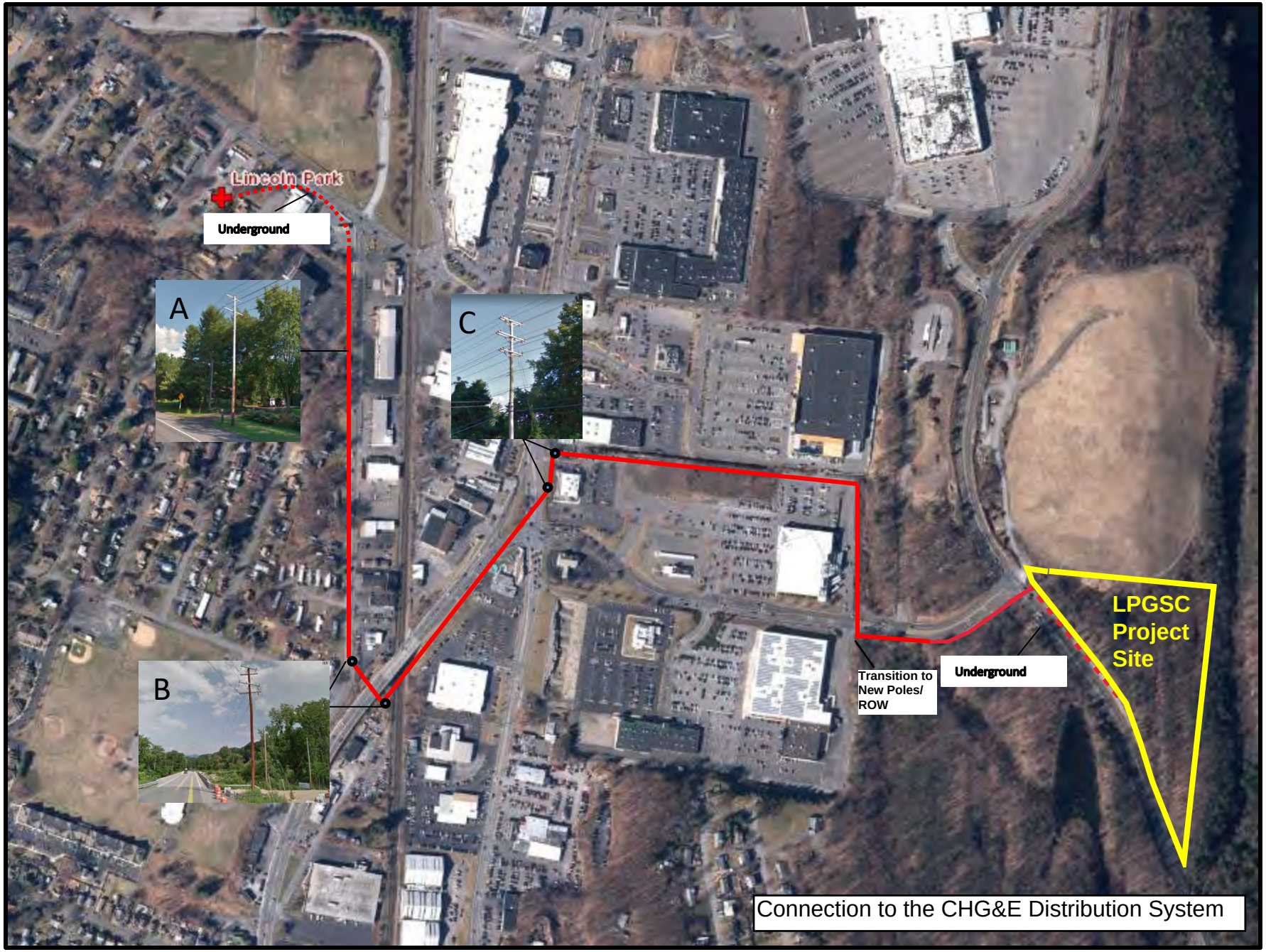
Lincoln Park Grid Support Center

Publicly Accessible Federal, State, or Local Scenic or Aesthetic Resources within 5 Miles

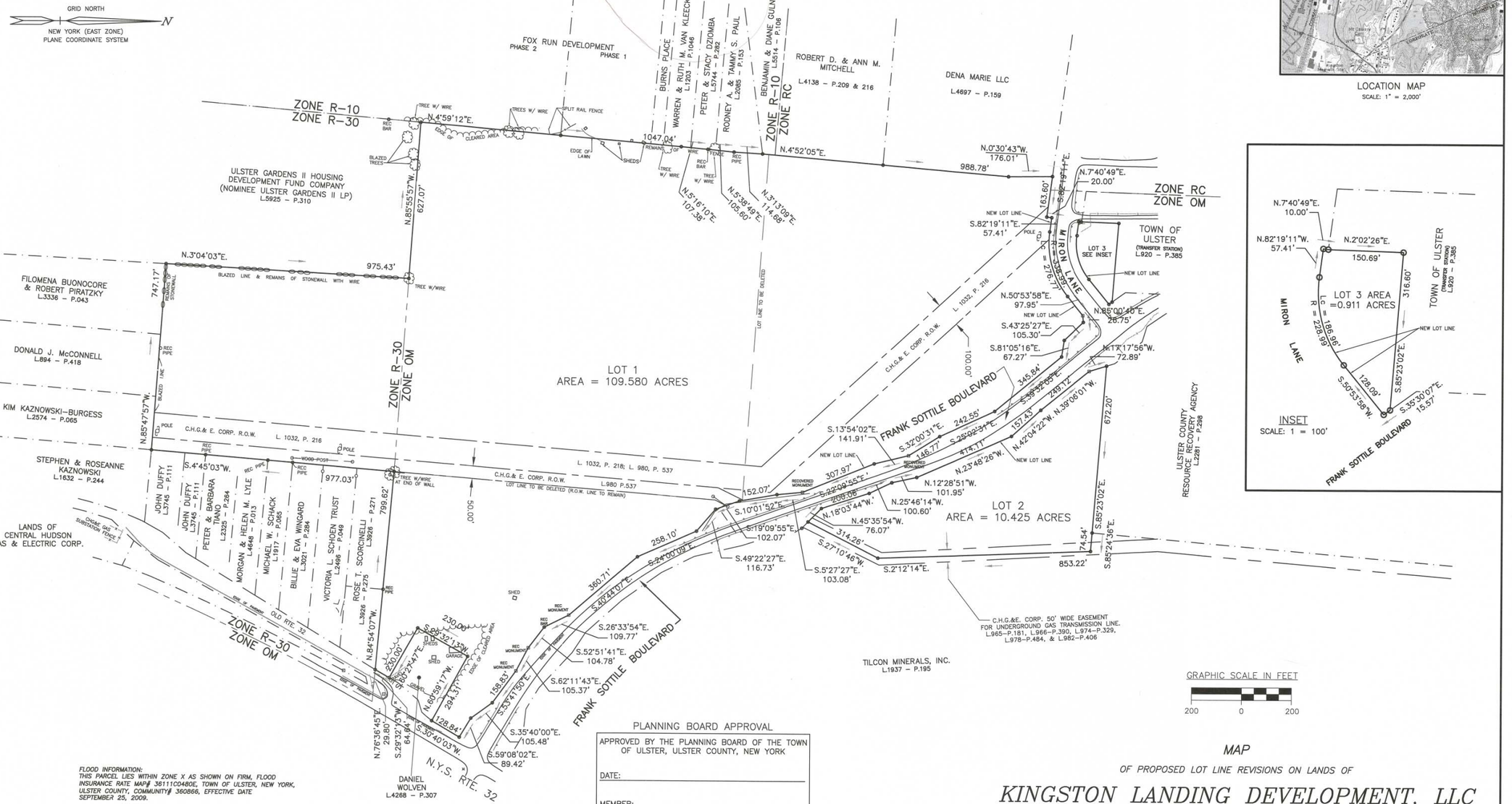
State Route 32, Town of Ulster - Ulster County, NY

Drawn:	RL-B
Date:	01/25/2019
Scale:	1 in = 1.5 miles
Project:	31788.05
Figure:	9

ATTACHMENT A
Connection to CHG&E Distribution System


Lincoln Park
Underground
A
B
C
Transition to New Poles/ ROW
Underground
LPGSC Project Site
Connection to the CHG&E Distribution System

ATTACHMENT B
Minor Subdivision



TAX MAP REFERENCE
Town of Ulster, Section No. 48.012
Block 1, Lot 20
Town of Ulster, Section No. 48.016
Block 3, Lots 1 and 2.210

DEED REFERENCE
Liber 4228 of Deeds at Page 185

FLOOD INFORMATION:
THIS PARCEL LIES WITHIN ZONE X AS SHOWN ON FIRM, FLOOD INSURANCE RATE MAP# 36111C0480E, TOWN OF ULSTER, NEW YORK, ULSTER COUNTY, COMMUNITY# 360866, EFFECTIVE DATE SEPTEMBER 25, 2009.

AREA SUMMARY

LOT 1	109.580 ACRES
LOT 2	10.425 ACRES
LOT 3	0.911 ACRES
TOTAL =	120.916 ACRES

LICENSED LAND SURVEYOR CHRISTOPHER E. ZELL 49626 STATE OF NEW YORK

BRINNIER & LARIOS, P.C.
67 MAIDEN LANE
KINGSTON, N.Y. 12401
(845) 338-7622
czell@blengineers.com

OWNERS' CONSENT TO FILE

I HEREBY GRANT MY APPROVAL OF THIS PLAT AND CONSENT TO THE FILING OF IT IN THE ULSTER COUNTY CLERK'S OFFICE

Kingston Landing Dev LLC

PLANNING BOARD APPROVAL

APPROVED BY THE PLANNING BOARD OF THE TOWN OF ULSTER, ULSTER COUNTY, NEW YORK

DATE: _____

MEMBER: _____

MEMBER: _____

TOWN ZONING INFORMATION

DISTRICT: R-30 RESIDENTIAL (CENTRAL WATER OR SEWER)

MINIMUM LOT SIZE:	30,000 S.F.
MINIMUM LOT PER DWELLING UNIT:	30,000 S.F.
MINIMUM LOT WIDTH:	100 FEET
MINIMUM SETBACKS:	
FRONT YARD:	30 FEET
SIDE YARD:	20 FEET
REAR YARD:	25 FEET
MAXIMUM BUILDING HEIGHT:	35 FEET
MAXIMUM LOT COVERAGE:	NA %
MINIMUM GREENSPACE:	25 %

TOWN ZONING INFORMATION

DISTRICT: OM OFFICE & MANUFACTURING (MUNICIPAL WATER AND CENTRAL SEWER)

MINIMUM LOT SIZE:	N/A S.F.
MINIMUM LOT PER DWELLING UNIT:	10000 S.F.
MINIMUM LOT WIDTH:	N/A FEET
MINIMUM SETBACKS:	
FRONT YARD:	40 FEET
SIDE YARD:	10 FEET
REAR YARD:	10 FEET
MAXIMUM BUILDING HEIGHT:	75 FEET
MAXIMUM LOT COVERAGE:	50 %
MINIMUM GREENSPACE:	10 %

MAP

OF PROPOSED LOT LINE REVISIONS ON LANDS OF

KINGSTON LANDING DEVELOPMENT, LLC

N.Y.S. ROUTE 32 & FRANK SOTTILE BOULEVARD

TOWN OF ULSTER ULSTER COUNTY NEW YORK

FEBRUARY 2, 2018

REVISED FEBRUARY 5, 2018 TO UPDATE SBL'S AND DEED REFERENCE GEW

ATTACHMENT C
Wetland Delineation Report

Wetland Delineation Report

Lincoln Park Grid Support Center

State Route 32

Town of Ulster
Ulster County, New York

March 25, 2019

THE Chazen COMPANIES®
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Civil Engineers
Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

Prepared for:

Lincoln Park DG, LLC
132 N. York Street, Suite 3L
Elmhurst, IL 60126

Wetland Delineation Report

Lincoln Park Grid Support Center

State Route 32

Town of Ulster
Ulster County, New York

March 25, 2019

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Prepared by:

Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C.

21 Fox Street
Poughkeepsie, New York 12601
(845) 454-3980

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Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C. (New York)
Chazen Engineering Consultants, LLC (Tennessee)

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FIGURES

APPENDICES

LIMITATIONS: Only the U.S. Army Corps of Engineers and/or New York State Department of Environmental Conservation (NYSDEC) can legally make a determination of the extent of regulated aquatic resources on any property. This wetland delineation report represents the professional opinion of The Chazen Companies regarding the extent and jurisdiction of aquatic resources on the Site and is non-binding on the Corps of Engineers or NYSDEC. Opinions presented in this report also apply to Site conditions and regulations existing only at the time of Chazen's delineation and may not necessarily apply to future Site conditions and/or regulations, which may change over time. Reliance on this report without validation or approval by the Corps of Engineers and/or the NYSDEC is solely at the risk of the Client.

1. CONTEXT OF THE SITE

The Project Site is being reviewed to construct a battery array to provide capacity and ancillary services to the regional electric grid, and this is a Wetland Delineation Report in support of that project, known as the Lincoln Park Grid Support Center (LPGSC) (also "the Project."). Appendix A, Figure 1 shows the location of the Project on the Kingston east, NY USGS topographic quadrangle. The Project is located on an 10.42 acre portion of a 41.2-acre parcel identified as Tax Parcel 48.12-1-20, located in Town of Ulster, Ulster County, New York. See Appendix A, Figure 2, "Tax Orthophoto Map."

The wetland delineation was completed within a Jurisdictional Determination limit of 8.167 acres. See Appendix B, Wetland and Stream Delineation Map, and the map provided titled "Lands Now or Formerly Of Kingston Landing Development LLC, Existing Conditions."

The Jurisdictional Delineation Area is mostly occupied by upland forest and wetlands.

On December 11, 2018, Chazen environmental scientist David MacDougall delineated the boundaries of wetlands in the 8.167-acre Jurisdictional Determination Area. The flags used to mark the location of the boundaries were located and mapped by Chazen land surveyors on January 25, 2019. That map is presented in Appendix B.

2. MAPPED RESOURCES

2.1 Topography

Figure 1 is a topographic map of the section of the Town of Ulster where the Jurisdictional Determination Area is located. The site lies within an area of rolling topography. There is approximately 30 feet of relief within the Jurisdictional Determination Area. The Jurisdictional Determination Area lies within the watershed of the Hudson River.

2.2 Soils

According to the soil survey map of the USDA Natural Resources Conservation Service, there are three soil mapping unit types mapped within the Jurisdictional Determination Area. These soils are described[1] and their approximate locations[2] shown in Appendix C, "Soils Report."

- Bath-Nassau-Rock outcrop complex, Hilly (BOD). This map unit consists of a deep, well drained Bath soil and a shallow, somewhat excessively drained Nassau soil and small areas of exposed bedrock. The soils formed in glacial till. Areas are mainly on a series of ridges that are cored by folded, shale, slate, siltstone and sandstone bedrock. These ridges are generally oriented in a northeast-southwest direction. Relief is very irregular. The Bath soil is in the convex inter-ridge areas where runoff does not accumulate, and the Nassau soil is on the ridge sideslopes and is intermingled with rock outcrops on ridgetops. Relief is irregular. Slopes are short and generally complex. They are mainly 10 to 25 percent, but range from 10 to 30 percent. Areas very in size and shape. The unit is made up of 40 percent Bath gravely silt loam, about 25 percent Nassau

[11] Tornes, Lawrence A. et. al. 1979. Soil Survey of Ulster County, New York. United States Department of Agriculture Soil Conservation Service in cooperation with Cornell University Agricultural Experiment Station. See www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/.../ulsterNY1979/ulster.pdf.

[2] The original soil data were mapped at a scale of 1:24,000, and so the soil unit boundaries shown in Appendix C, which is at a scale of 1:9,410, are not likely to be accurate.

shaly silt loam, about 15 percent Rock outcrop and about 20 percent other soils. These soils and Rock outcrop area in such an intricate pattern that they are not shown separately on the soil map. The Bath soil may have a perched water table from 2 to 4 feet below the grade from November to March, with the Nassau soil having a high-water table of greater than 6 feet. Bedrock is 40 inches below grade in the Bath soils, and 10 to 20 inches below grade in the Nassau soils. The bedrock is hard in the Bath soil and rippable in the Nassau soil. The Bath soil is a coarse-loamy mixed mesic Typic Fragiochrepts, while the Nassau soil is a loamy-skeletal, mixed, mesic Lithic Dystrochrept. This mapping unit has a 0% hydric soil rating.

- Nassau-Bath-Rock outcrop complex, very steep (NBF). This map unit consists of shallow, somewhat excessively drained Nassau soils; deep well drained Bath soils; and Rock outcrop or bedrock exposures that are intermingled mainly with the Nassau soils. These soils formed in glacial till. The Nassau soil general is on the upper one-half to two-thirds of the slope, and the Bath soil is on the lower art. Rock outcrop is on the hillsides, valleysides, and mountains. Slope ranges from 35 to 65 percent. Most areas are long and narrow in shape and are 10 to 100 acres in size. This unit is made up of about 40 percent Nassau shaly silt loam and very shaly silt loam, 25 percent Bath gravelly silt loam and gravelly loam, 20 percent Rock outcrop, and 15 percent other soils. These sols and the Rock outcrop form such an intricate pattern that they are not shown separately on the soil map. The Bath soil may have a perched water table from 2 to 4 feet below the grade from November to March, with the Nassau soil having a high-water table of greater than 6 feet. Bedrock is 40 inches below grade in the Bath soils, and 10 to 20 inches below grade in the Nassau soils. The bedrock is hard in the Bath soil and rippable in the Nassau soil. The Bath soil is a coarse-loamy mixed mesic Typic Fragiochrepts, while the Nassau soil is a loamy-skeletal, mixed, mesic Lithic Dystrochrept. This mapping unit has a 0% hydric soil rating.

- Volusia channery silt loam, 0 to 8 percent slopes, very stony (VSB). These deep, very stony, somewhat poorly drained soils formed in glacial till. They are on foot slopes and on undulating hilltops and plains. Slopes are concave and uniform. They range from 3 to 8 percent. Areas are long and narrow or irregular in shape and are 10 to 150 acres in size. This soil has a perched water table at a depth of 0.5 to 1.5 inches below grade from December to May. The depth to bedrock is greater than 60 inches. This soil is a fine-loamy mixed mesic Aeric Fragiaquept. This soil has a hydric soil rating of 5%.

One soil mapped in the Jurisdictional Determination Area has a hydric soil rating of greater than 0 percent. Volusia channery silt loam has a hydric soil rating of 5%. This rating indicates the percentage of the soils in a map unit that is likely to be hydric. Palms soil lie at the bottom of a steep slope off-site.

Table 1: Summary of Soils Mapped within Area of Review

Map Unit Symbol	Map Unit Name	Hydric Soil Rating	Depth to Water Table	Natural Drainage Class
BoD	Bath-Nassau-Rock outcrop complex, Hilly	0	Bath – 2 to 4 feet Nassau - >6 feet	Well Drained Somewhat Excessively Drained
NBF	Nassau-Bath-Rock outcrop complex, very steep	0	Bath – 2 to 4 feet Nassau - >6 feet	Well Drained Somewhat Excessively Drained
VSB	Volusia channery silt loam, 0 to 8 percent slopes, very stony	5	0.5 to 1.5 feet	Somewhat Poorly Drained

2.3 Wetlands and Streams

There are two NYSDEC Wetland mapped in the vicinity of the Jurisdictional Determination Area.

NYSDEC wetland, KE-3, Class 2 is located north of the Project parcel; the NYSDEC maps this as 65.3-acre wetland.

NYSDEC wetland, KE-7, Class 2 is located southeast of the Project parcel; the NYSDEC maps this as 28.9-acre wetland.

The National Wetland Inventory (NWI[3]) does not identify any wetlands or streams mapped within the 10.45 sub-parcel or the 8.167 acre Jurisdictional Determination Area. A stream is shown off-parcel to the east, with the NYSDEC wetland KE-3 to the north. The NWI mapping is not a regulatory map but rather a tool for identifying the location of the potential wetlands in the field. See Figure 3 "National Wetlands Inventory and NYSDEC Wetlands and Streams Map."

3. ECOLOGICAL COMMUNITIES

A list of the plant species identified during the wetland delineation work is provided in Appendix D. Following are descriptions of the plant communities found in the Jurisdictional Determination Area, as defined according to the ecological community classification system used by the New York Natural Heritage Program (Edinger et al. 2014).

- Appalachian Oak-hickory forest: The majority of this site is forested and includes rolling topography. Shallow bedrock was encountered throughout the Jurisdictional Determination Area and the trees are likely old growth with moderate size due to the root restriction. The forest on-site is dominated by mature trees including chestnut oak, red oak, white oak, shagbark hickory, sugar maple, and black cherry. A sparse herbaceous layer included wintergreen, spotted wintergreen, and Christmas fern. This community is throughout the Jurisdictional Determination Area. See Appendix D, Photo 3, 4, 7, 8, 11, 12, 15 and 16.

- Red Maple-hardwood swamp: Several of the wetland systems found on-site can be categorized as red maple hardwood swamps, including Wetland A, B, C, and D. These wetlands lie within depressions and one (Wetland C) is associated with an off-site stream. The wetlands are dominated by red maple, American hornbeam, and sensitive fern. highbush blueberry, and spicebush were the main shrubs identified in these wetlands. See Appendix D, Photos 1, 2, 5, 6, 9, and 13.

- Shrub swamp: One of the wetland systems found on-site can be categorized as a shrub swamp, Wetland E. This wetland lies within a depression. The wetland is dominated by spicebush, highbush blueberry, and sensitive fern. Highbush blueberry and spicebush were the main shrubs identified.

[3] USFWS. 2018. National Wetlands Inventory surface waters and wetlands. https://www.fws.gov/wetlands/data/Mapper.htm. Reviewed August 9, 2018.

4. WETLAND DELINEATION

The identification of wetlands and delineation of their boundaries was carried out according to the methods in the Corps of Engineers delineation manual (Environmental Laboratory, 1987) and the regional supplement to that manual (USACOE, 2011). On December 11, 2018 Chazen environmental scientist David MacDougall delineated the boundaries of wetlands in the Jurisdictional Determination Area. The flags used to mark the location of the boundaries were located and mapped by Chazen land surveyors on January 25, 2019. That map is presented in Appendix B.

Points on the wetland boundaries were marked using pieces of vinyl flagging tape tied to trees and shrubs, each of which was given an ID number consisting of a letter identifying the line plus a sequential number. During the field work, photographs of the upland and wetland boundary and other general site conditions were taken as provided in Appendix E. Data points were taken on the wetland and upland side of each boundary line, with the location specified by the wetland flag number. This data included details of vegetative strata, hydrology and soils, which is provided on the datasheets in Appendix F.

5. DESCRIPTION OF WETLANDS AND STREAMS

Following are brief description of the wetlands delineated in the Jurisdictional Determination Area. The Jurisdictional Determination Area is approximately 8.167-acres in size, with a centroid at 41°57’51.20’’ and -73°58’30.59’’. Table 2 lists the wetland identification, area in the Jurisdictional Determination Area, centroid coordinates (WGS84 datum), and Cowardin Class. The area of wetlands provided below are from the surveyed wetland map in Appendix B.

Wetland A is to the east of Frank Sottile Boulevard. The wetland was mostly inundated at the time of the delineation. This wetland contains open water and forested habitats.

Wetland B is to the east of Frank Sottile Boulevard. The wetland was partially inundated at the time of the delineation. This wetland contains forested habitat.

Wetland C is to the east of Frank Sottile Boulevard. The wetland was partially inundated at the time of the delineation. This wetland contains open water and forested habitats. This wetland flows into a stream channel north of the Jurisdictional Determination Area outside of the Project parcel.

Wetland D is to the east of Frank Sottile Boulevard. The wetland was partially inundated at the time of the delineation. This wetland contains forested habitat.

Wetland E is to the east of Frank Sottile Boulevard. The wetland was not inundated at the time of the delineation. This wetland contains scrub shrub habitat.

Table 2. Wetland Information

Wetland or Stream	On-site area (acres) or length (l.f.)	Centroid (on or adjacent to Project Site)		Cowardin Class	Stream Type
		Latitude	Longitude		
Wetland A	0.37	41°57'34.78''	-73°58'53.34''	PFO/PUB	N/A
Wetland B	0.06	41°57'34.31''	-73°58'50.48''	PFO	N/A
Wetland C	0.24	41°57'49.10''	-73°58'32.84''	PFO	N/A
Wetland D	0.19	41°57'51.20''	-73°58'30.59''	PFO	N/A
Wetland E	0.04	41°57'49.88''	-73°58'25.83''	PSS	N/A

6. JURISDICTION OVER WETLANDS ON THE PROJECT SITE

The following identifies the jurisdiction over wetlands by the federal, state and local government.

New York State Department of Environmental Conservation (NYSDEC): There are no streams mapped by the NYSDEC within the Jurisdictional Determination Area.

There are two NYSDEC mapped wetland on or in the immediate vicinity to the site, See Figure 3 in Appendix A. Both wetlands are Class 2. NYSDEC wetland KE-3 is located near the northeast corner of the property, and NYSDEC Wetland KE-7 is east of the southeast corner of the site.

Wetland C is within the 500 foot checkzone of NYSDEC Wetland KE-3. However, the NYSDEC wetland is at the toe of a steep slope off-site, whereas Wetland C on-site is at a higher elevation on the property. There is a small stream channel that flows out of Wetland C off-site and downslope to the DEC wetland. The two wetlands are separated both by several hundred feet of distance, and a steep slope, and so it is Chazen's professional opinion that the NYSDEC will not assert jurisdiction over Wetland C due to the physical separation from NYSDEC Wetland KE-3.

Wetland E appears to be within the 500-foot checkzone of NYSDEC wetland KE-7. Wetland E is a potentially non-jurisdictional federal wetland as it has no inlet or outlet and the wetland lays within a depression. NYSDEC Wetland KE-7 appears to be on the east side of an off-site stream corridor located at the bottom of a steep slope located off-site. Wetland E is separated from NYSDEC Wetland KE-7 by several hundred feet and a steep slope. It is Chazen's professional opinion that the NYSDEC will not assert jurisdiction over Wetland E due to the physical separation from NYSDEC Wetland KE-7.

A NYSDEC Section 401 Water Quality Certificate is required if applying for a Corps permit.

Corps of Engineers: Under Section 404 of the Clean Water Act, the Corps regulates any waters or wetlands with a significant nexus to traditionally navigable waters (i.e., "Waters of the United States" or WOTUS). Generally, streams that flow off a site and the wetlands adjacent to such streams are likely to have such a nexus. Under Section 404 of the Clean Water Act, the Corps regulates the discharge of

dredge or fill material into Waters and Wetlands. Nationwide permits are available for impacts less than 0.5 acre with compensatory mitigation required for impacts greater than 0.1 acre. An individual permit is required for impacts greater than 0.5 acre.

The federal definition of WOTUS, and the regulations and guidelines for determining what aquatic resources are subject to regulation under WOTUS has been in flux since 2001. The ruling in Solid Waste Authority of Northern Cook County (SWANCC) found that otherwise non-jurisdictional wetlands that were only regulated under the Migratory Bird Act did not have a significant nexus under the US Constitution's Commerce Clause for federal regulation. There have been numerous federal court cases regarding this regulation, including the US Supreme Court decision in Rapanos and Carabell, which ruled that a water of the United States needed a Significant Nexus to be regulated. Recently the WOTUS Definition was changed under a 2015 regulation that went into effect in New York Stat in August/September 2018. Attachment G provides a "2015 Clean Water Rule Cheat Sheet." Under the 2015 WOTUS definition, it is Chazen's professional opinion that the Corps will use the following thresholds:

- Waters and wetlands are **automatically regulated** under Section 404 of the Clean Water Act if they are "adjacent" or "neighboring" a tributary to a navigable water. This includes waters or wetlands identified as (a)(1) through (a)(6) on the Cheat Sheet that are:
    - A tributary (a)(5) and/or abutting or separated by a barrier from a tributary (a)(6).
    - Within 100 feet of an ordinary high water mark of a tributary (a)(6).
    - Within a 100-year floodplain and within 1,500 of the ordinary high water mark of a tributary (a)(6).
- Under (a)(8) all waters or wetlands that are more than 100 feet but less than 4,000 feet from a tributary are regulated when they are determined on a case-specific basis to have a significant nexus to a tidal or navigable water, an interstate water or the territorial sea. The significant nexus determines whether there is a more than inconsequential or insignificant physical, chemical, hydrological or biological significant nexus. This is a new regulatory process that is currently in initial stages and being developed.

Table 3 below summarizes likely jurisdiction for these wetlands. It is Chazen's professional opinion that Wetlands B and C are regulated under Section 404 of the Clean Water Act by law, and that Wetlands A, D and E requires a Corps of Engineer's significant nexus determination to be regulated under Section 404 of the Clean Water Act.

Table 3: Summary of Likely Jurisdiction

Wetland ID	Watercourses in wetland?	Flow out of wetland?	Wetland w/in 100 feet of a Tributary?	LIKELY REGULATORY STATUS
Wetland A	NO	NO	NO	(a)(8) Requires significant nexus determination
Wetland B	NO	NO	YES	(a)(6). Regulated by law. Wetland adjacent to Intermittent Stream
Wetland C	NO	YES	YES	(a)(6). Regulated by law. Wetland adjacent to Intermittent Stream
Wetland D	NO	NO	NO	(a)(8) Requires significant nexus determination
Wetland E	NO	NO	NO	(a)(8) Requires significant nexus determination

7. LITERATURE CITED

Edinger, G. J., Evans, D.J., Gebauer, S., Howard, T.G., Hunt, D.M., & Olivero, A.M. (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY, 160p.

Environmental Laboratory. 1987. *Corps of Engineers wetlands delineation manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station. (http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf)

U.S. Army Corps of Engineers. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers 2016. National Wetland Plant List, version 3.3. U.S. Army Corps of Engineers Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH. (http://wetland_plants.usace.army.mil/)

United States Department of Agriculture, Natural Resources Conservation Service. 2017. *Field Indicators of Hydric Soils in the United States*, Version 8.1. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

Weldy, Troy, David Werier, and Andrew Nelson. 2018. New York Flora Atlas. [S. M. Landry and K. N. Campbell (original application development), USF Water Institute. University of South Florida.] New York Flora Association, Albany, New York. (http://www.newyork.plantatlas.usf.edu/).

Z:\projects\31700-31799\31788.05 Glidepath Ulster East Site\EcoNR\Wetland Del Rpt\2019-03-22 wetland delineation report 31788_05.docx

Version saved 3/25/2019 11:00:00 AM

APPENDIX A

Figures

Figure 1 Site Location Map

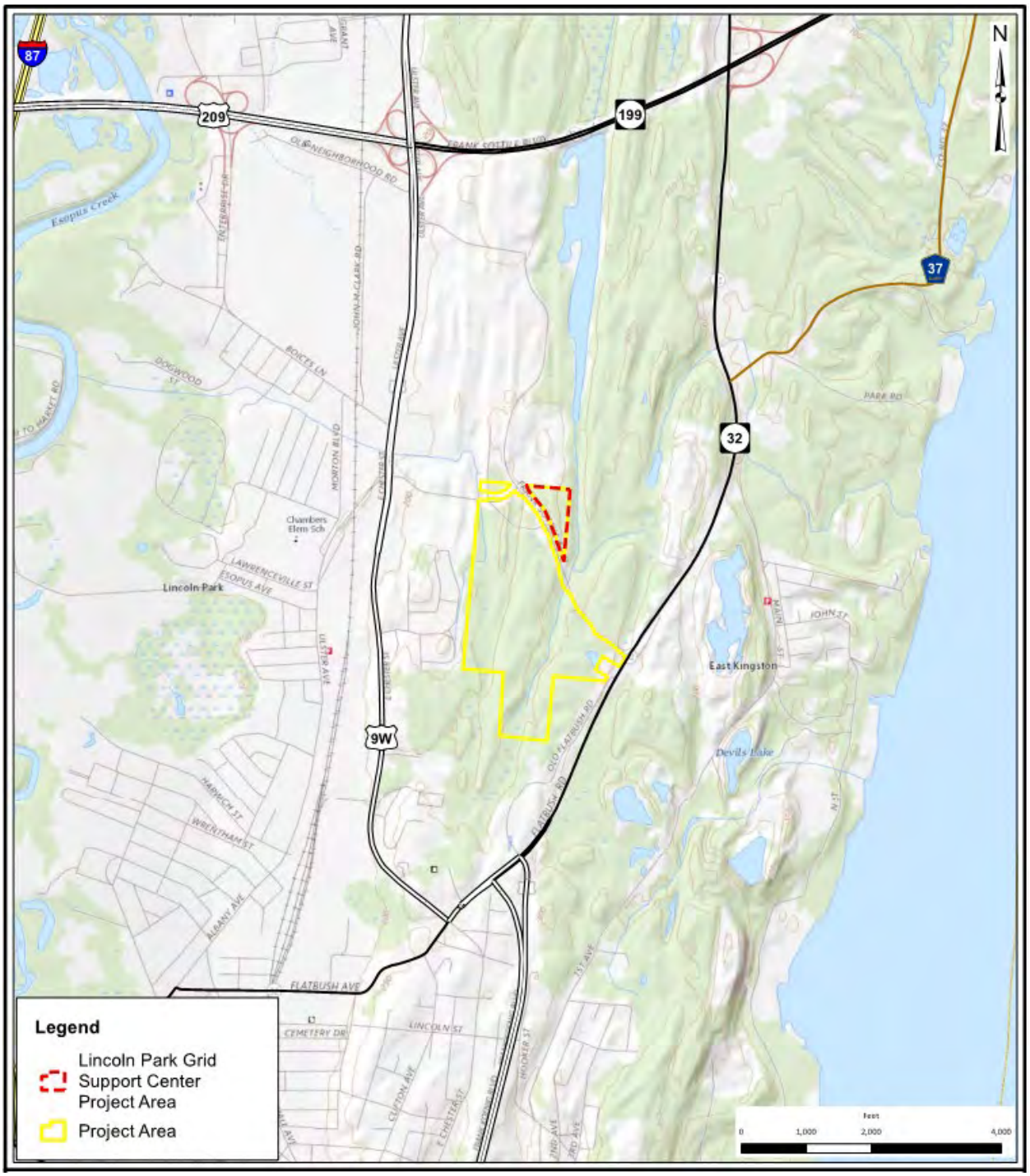
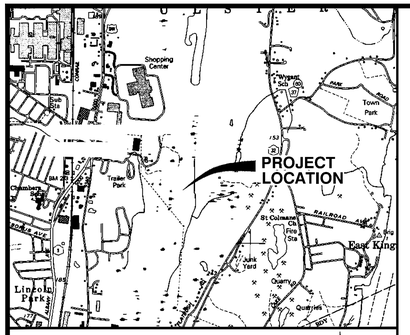


Figure 2 Orthophoto of the Project Area

Figure 3 National Wetlands Inventory and NYSDEC Wetlands and Streams Map

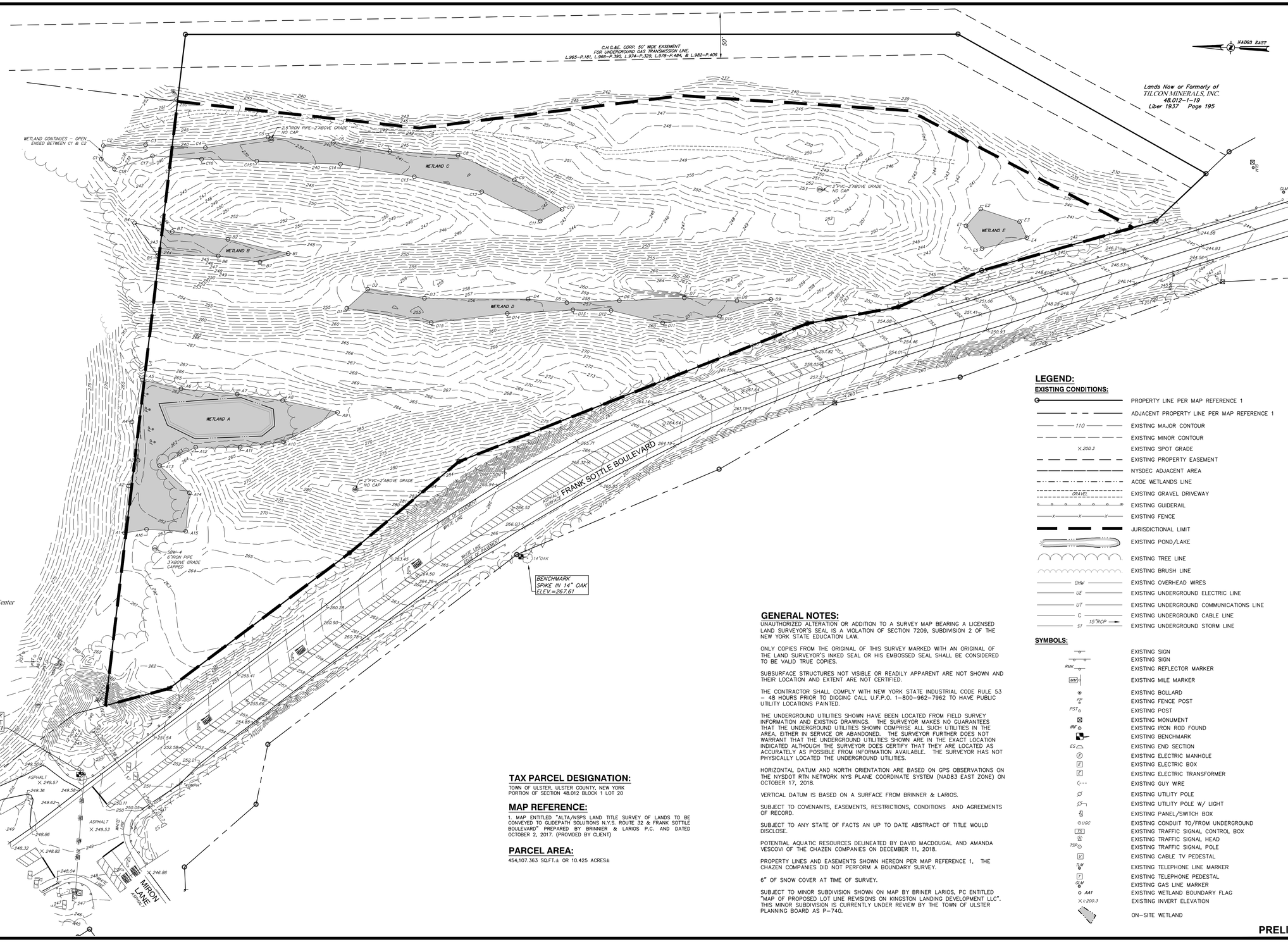
APPENDIX B

Wetland Delineation Map



SITE LOCATION PLAN: 1"=2000'

WETLAND/STREAM TABLE	
WETLAND OR STREAM	ON-SITE AREA (acres)
Wetland A	0.368 acres
Wetland B	0.061 acres
Wetland C	0.238 acres
Wetland D	0.186 acres
Wetland E	0.041 acres
JURISDICTIONAL AREA	8.167 acres



TAX PARCEL DESIGNATION:

TOWN OF ULSTER, ULSTER COUNTY, NEW YORK
PORTION OF SECTION 48.012 BLOCK 1 LOT 20

MAP REFERENCE:

1. MAP ENTITLED "ALTA/NSPS LAND TITLE SURVEY OF LANDS TO BE CONVEYED TO GLIDEPATH SOLUTIONS N.Y.S. ROUTE 32 & FRANK SOTTILE BOULEVARD" PREPARED BY BRINNER & LARIOS P.C. AND DATED OCTOBER 2, 2017. (PROVIDED BY CLIENT)

PARCEL AREA:

454,107.363 SQ.FT.± OR 10.425 ACRES±

GENERAL NOTES:

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S INKED SEAL OR HIS EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

SUBSURFACE STRUCTURES NOT VISIBLE OR READILY APPARENT ARE NOT SHOWN AND THEIR LOCATION AND EXTENT ARE NOT CERTIFIED.

THE CONTRACTOR SHALL COMPLY WITH NEW YORK STATE INDUSTRIAL CODE RULE 53 – 48 HOURS PRIOR TO DIGGING CALL U.F.P.O. 1-800-962-7962 TO HAVE PUBLIC UTILITY LOCATIONS PAINTED.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

HORIZONTAL DATUM AND NORTH ORIENTATION ARE BASED ON GPS OBSERVATIONS ON THE NYSDOT RTN NETWORK NYS PLANE COORDINATE SYSTEM (NAD83 EAST ZONE) ON OCTOBER 17, 2018.

VERTICAL DATUM IS BASED ON A SURFACE FROM BRINNER & LARIOS.

SUBJECT TO COVENANTS, EASEMENTS, RESTRICTIONS, CONDITIONS AND AGREEMENTS OF RECORD.

SUBJECT TO ANY STATE OF FACTS AN UP TO DATE ABSTRACT OF TITLE WOULD DISCLOSE.

POTENTIAL AQUATIC RESOURCES DELINEATED BY DAVID MACDOUGAL AND AMANDA VESCOVI OF THE CHAZEN COMPANIES ON DECEMBER 11, 2018.

PROPERTY LINES AND EASEMENTS SHOWN HEREON PER MAP REFERENCE 1, THE CHAZEN COMPANIES DID NOT PERFORM A BOUNDARY SURVEY.

6" OF SNOW COVER AT TIME OF SURVEY.

SUBJECT TO MINOR SUBDIVISION SHOWN ON MAP BY BRINER LARIOS, PC ENTITLED "MAP OF PROPOSED LOT LINE REVISIONS ON KINGSTON LANDING DEVELOPMENT LLC". THIS MINOR SUBDIVISION IS CURRENTLY UNDER REVIEW BY THE TOWN OF ULSTER PLANNING BOARD AS P-740.

LEGEND:

EXISTING CONDITIONS:

- PROPERTY LINE PER MAP REFERENCE 1
- ADJACENT PROPERTY LINE PER MAP REFERENCE 1
- 110 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- X 200.3 — EXISTING SPOT GRADE
- EXISTING PROPERTY EASEMENT
- NYSDEC ADJACENT AREA
- ACOE WETLANDS LINE
- GRAVEL — EXISTING GRAVEL DRIVEWAY
- EXISTING GUIDERAIL
- X X X — EXISTING FENCE
- JURISDICTIONAL LIMIT
- EXISTING POND/LAKE
- EXISTING TREE LINE
- EXISTING BRUSH LINE
- OHW — EXISTING OVERHEAD WIRES
- UE — EXISTING UNDERGROUND ELECTRIC LINE
- UT — EXISTING UNDERGROUND COMMUNICATIONS LINE
- C — EXISTING UNDERGROUND CABLE LINE
- ST 15"RCP — EXISTING UNDERGROUND STORM LINE

SYMBOLS:

- EXISTING SIGN
- EXISTING SIGN
- RMK — EXISTING REFLECTOR MARKER
- MM — EXISTING MILE MARKER
- EXISTING BOLLARD
- FP — EXISTING FENCE POST
- PST — EXISTING POST
- EXISTING MONUMENT
- IRF — EXISTING IRON ROD FOUND
- EXISTING BENCHMARK
- ES — EXISTING END SECTION
- EXISTING ELECTRIC MANHOLE
- E — EXISTING ELECTRIC BOX
- E — EXISTING ELECTRIC TRANSFORMER
- C — EXISTING GUY WIRE
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/ LIGHT
- EXISTING PANEL/SWITCH BOX
- OUGC — EXISTING CONDUIT TO/FROM UNDERGROUND
- TS — EXISTING TRAFFIC SIGNAL CONTROL BOX
- EXISTING TRAFFIC SIGNAL HEAD
- TSP — EXISTING TRAFFIC SIGNAL POLE
- V — EXISTING CABLE TV PEDESTAL
- TLM — EXISTING TELEPHONE LINE MARKER
- T — EXISTING TELEPHONE PEDESTAL
- GLM — EXISTING GAS LINE MARKER
- A1 — EXISTING WETLAND BOUNDARY FLAG
- X 200.3 — EXISTING INVERT ELEVATION
- ON-SITE WETLAND

PRELIM

I HEREBY CERTIFY THAT THIS SURVEY MAP IS BASED ON AN ACTUAL FIELD SURVEY COMPLETED ON JANUARY 25, 2019. THAT THIS SURVEY MAP WAS MADE BY ME OR UNDER MY DIRECTION, AND CONFORMS WITH THE MINIMUM STANDARD OF PRACTICE ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS.

JASON M. GRIMES, L.L.S.S. #99985

0 1 2 3
ORIGINAL SCALE IN INCHES

CHAZEN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE, CO., D.P.C.

THE Chazen COMPANIES — Proud to be Employee Owned

Civil Engineers
Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

Office Locations:

☐ Hudson Valley Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980

☐ North Country Office: 20 Elm Street (Suite 110), Glens Falls, New York 12801, Phone: (518) 812-0513

☒ Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055

☐ Westchester NY Office: 1 North Broadway, Suite 803, White Plains, New York 10601, Phone: (914) 997-8510

Nashville Tennessee Office: 2416 21st Ave S. (Suite 103), Nashville, Tennessee 37212, Phone: (615) 380-1359

Chattanooga Tennessee Office: 427 E. 5TH ST. (Suite 201), Chattanooga, Tennessee 37403, Phone: (423) 241-6575

rev.	date	description

LINCOLN PARK GRID SUPPORT CENTER, GLIDEPATH ULSTER - EAST SIDE

LANDS NOW OR FORMERLY OF KINGSTON LANDING DEVELOPMENT LLC EXISTING CONDITIONS

TOWN OF ULSTER, ULSTER COUNTY, NEW YORK

designed	checked
DML	JMT
date	scale
03/04/19	1"=50'
project no.	
31788.05	
sheet no.	
SV100	

Drawing Name: Z:\projects\31700-31799\31788.05 Glidepath Ulster East Site\SVY\dwg\05_SVY_31788-05_EXIST.dwg
Xrefs Attached: XBASE_SVY_31788-05
Date Printed: Mar 22, 2019, 10:13am

APPENDIX C

Soils Report

Map Scale: 1:2,060 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 17, Sep 3, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 7, 2013—Sep 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BOD	Bath-Nassau-Rock outcrop complex, hilly	0	4.1	38.9%
ML	Made land	5	0.0	0.1%
NBF	Nassau-Bath-Rock outcrop complex, very steep	0	3.5	32.9%
Pa	Palms muck	100	1.6	15.2%
VSB	Volusia channery silt loam, 0 to 8 percent slopes, very stony	5	1.4	12.9%
Totals for Area of Interest			**10.5**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

APPENDIX D

Plant Table

Table 1. Plants Identified Growing on the Project Site

Scientific Name*	Common Name	Wetland indicator†
Trees		
Acer pensylvanicum	Striped Maple	FACU
Acer rubrum	Red Maple	FAC
Acer saccharum	Sugar Maple	FACU
Betula alleghaniensis	Yellow Birch	FAC
Betula lenta	Sweet Birch	FACU
Betula populifolia	Gray Birch	FAC
Carpinus caroliniana	American Hornbeam	FAC
Carya glabra	Pignut Hickory	FACU
Carya ovata	Shag-Bark Hickory	FACU
Fagus grandifolia	American Beech	FACU
Fraxinus pennsylvanica	Green Ash	FACW
Ostrya virginiana	Eastern Hop-Hornbeam	FACU
Pinus strobus	Eastern White Pine	FACU
Populus deltoides	Eastern Cottonwood	FAC
Populus tremuloides	Quaking Aspen	FACU
Prunus pensylvanica	Fire Cherry	FACU
Prunus serotina	Black Cherry	FACU
Quercus alba	Northern White Oak	FACU
Quercus montana	Chestnut Oak	UPL
Quercus rubra	Northern Red Oak	FACU
Quercus velutina	Black Oak	NL
Robinia pseudoacacia	Black Locust	FACU
Salix nigra	Black willow	OBL
Tsuga canadensis	Eastern Hemlock	FACU
Shrubs		
Berberis thunbergii	Japanese Barberry	FACU
Cornus amomum	Silky Dogwood	FACW
Cornus racemosa	Gray dogwood	FAC
Hamamelis virginiana	American Witch-Hazel	FACU
Ilex verticillata	Winterberry	FACW
Lindera benzoin	Northern Spicebush	FACW
Lonicera morrowii	Morrow's Honeysuckle	FACU
Prunus virginiana	Choke Cherry	FACU
Rosa multiflora	Rambler Rose	FACU
Rubus allegheniensis	Allegheny Blackberry	FACU
Spiraea alba	Meadowsweet	FACW
Vaccinium angustifolium	Lowbush Blueberry	FACU

Scientific Name*	Common Name	Wetland indicator†
Vaccinium corymbosum	Highbush Blueberry	FACW
Viburnum dentatum	Southern Arrow-Wood	FAC
Woody Vines		
Celastrus orbiculatus	Asian Bittersweet	UPL
Clematis virginiana	Devil's-Darning-Needles	FAC
Parthenocissus quinquefolia	Virginia-Creeper	FACU
Toxicodendron radicans	Eastern Poison Ivy	FAC
Vitis sp.	grape	unknown
Herbaceous Plants		
Alliaria petiolata	Garlic-Mustard	FACU
Allium schoenoprasum	Wild Chives	FACU
Anthoxanthum odoratum	Large Sweet Vernal Grass	FACU
Apocynum sp.	Dogbane	unknown
Aquilegia canadensis	Red Columbine	FACU
Aralia nudicaulis	Wild Sarsaparilla	FACU
Artemisia vulgaris	Common Wormwood	UPL
Asplenium platyneuron	Ebony Spleenwort	FACU
Asplenium rhizophyllum	walking fern	NL
Barbarea vulgaris	Garden Yellow-Rocket	FAC
Carex albursina	White Bear Sedge	NL
Carex pensylvanica	Pennsylvania sedge	NL
Carex stricta	Uptight Sedge	OBL
Centaurea stoebe	Spotted Knapweed	NL
Chimaphila maculata	Spotted-Wintergreen	NL
Chrysosplenium americanum	American Golden-Saxifrage	OBL
Danthonia spicata	Poverty Grass	NL
Daucus carota	Queen Anne's-Lace	UPL
Dendrolycopodium obscurum	Princess-Pine	FACU
Dennstaedtia punctilobula	Hay-Scented Fern	UPL
Dichanthelium clandestinum	Deer-Tongue Rosette Grass	FACW
Equisetum arvense	Field Horsetail	FAC
Eurybia divaricata	White Wood-Aster	NL
Fragaria virginiana	Virginia Strawberry	FACU
Galium mollugo	White Bedstraw	FACU
Geum canadense	White Avens	FAC
Glyceria striata	Fowl mana grass	OBL
Impatiens sp.	Touch-me-not	FACW
Lotus corniculatus	Garden Bird's-Foot-Trefoil	FACU
Lysimachia ciliata	Fringed Yellow-Loosestrife	FACW
Lythrum salicaria	Purple Loosestrife	OBL

Scientific Name*	Common Name	Wetland indicator†
Maianthemum canadense	False Lily-of-the-Valley	FACU
Micranthes virginiensis	Early Pseudosaxifrage	FACU
Microstegium vimineum	Japanese Stilt Grass	FAC
Mitchella repens	Partridge-Berry	FACU
Onoclea sensibilis	Sensitive Fern	FACW
Osmundastrum cinnamomeum	Cinnamon Fern	FACW
Parathelypteris noveboracensis	New York Fern	FAC
Pedicularis canadensis	Canadian Lousewort	FACU
Phragmites australis	Common Reed	FACW
Polypodium virginianum	Rock Polypody	NL
Polystichum acrostichoides	Christmas Fern	FACU
Potentilla canadensis	Dwarf Cinquefoil	NL
Pteridium aquilinum	Northern Bracken Fern	FACU
Pyrola americana	American Wintergreen	FAC
Ranunculus acris	Tall Buttercup	FAC
Rubus hispidus	Bristly Dewberry	FACW
Schizachyrium scoparium	Little False Bluestem	FACU
Solidago gigantea	Late Goldenrod	FACW
Solidago juncea	Early Goldenrod	NL
Solidago rugosa	Wrinkle-Leaf Goldenrod	FAC
Stachys byzantina	Lambs ear	FACU
Symplocarpus foetidus	Skunk-Cabbage	OBL
Taraxacum officinale	Common Dandelion	FACU
Thalictrum thalictroides	Rue-Anemone	FACU
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FACU
Uvularia sessilifolia	Sessile-Leaf Bellwort	FACU
Veratrum viride	American False Hellebore	FACW
Verbascum thapsus	Great Mullein	UPL

*Scientific names, common names, and wetland indicators are obtained from the National Wetland Plant List (US Army Corps of Engineers, 2016). For plants not on the list (i.e. having an "NL" wetland indicator), scientific and common names are taken from Weldy et al. (2018).

†The Wetland Indicator refers to the affinity of the plant for wetland environments:
Obligate Wetland (OBL) = Almost always occur in wetlands
Facultative Wetland (FACW) = Usually occur in wetlands, but may occur in non-wetlands
Facultative (FAC) = Occur in wetlands or non-wetlands
Facultative Upland (FACU) = Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland (UPL) = Almost never occur in wetlands
Plants not on the list (NL) are considered to be the same as UPL for delineation purposes.

APPENDIX E

Photographs of the Project Site

Photo #1
Description: View north of Wetland A. This wetland contains forested and ponded habitat.

Photo #2
Description: View east of Wetland A.

Photo #3
Description: View south of the upland forest adjacent to Wetland A.

Photo #4
Description: View west of the upland forest adjacent to Wetland A.

Photo #5
Description: View north of Wetland B a forested wetland.

Photo #6
Description: View south of Wetland B.

Photo #7
Description: View west of the upland forest adjacent to Wetland B.

a

Photo #8
Description: View north of the upland forest adjacent to Wetland B.

Photo #9
Description: View south of a portion of Wetland C.

a

Photo #10
Description: View east of the off-site stream that is partially fed by Wetland C.

Photo #11
Description: View east of the upland forest adjacent to Wetland C.

a

Photo #12
Description: View west of the upland forest adjacent to Wetland C.

Photo #13
Description: View north of Wetland D a forested wetland between rock outcrops.

a

Photo #14
Description: View south of the southern tip of Wetland D.

Photo #15
Description: View north of the forested upland between Wetlands D and E.

a

Photo #16
Description: View south of the forested upland between Wetlands D and E.

APPENDIX F

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: A-15-W

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression | Local Relief (concave, convex, none): concave | Slope %: 1

Subregion (LRR or MLRA): LRR R | Latitude: 41 57'34.78'' ° N | Longitude: -73 58'53.34'' ° W | Datum: WGS 84

Soil Map Unit Name: Volusia channery silt loam, 0 to 8 percent slopes (VsB) | NWI Classification: PFO

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

Hydric Soil Present? Yes ☑ No ☐

Wetland Hydrology Present? Yes ☑ No ☐

Is the Sampled Area within a Wetland? Yes ☑ No ☐

If yes, optional Wetland Site ID: A

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 10

Water Table Present? Yes ☑ No ☐ Depth (inches): 0

Saturation Present? Yes ☑ No ☐ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

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

Water was frozen at the surface, ice 2-3 inches thick

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Populus deltoides*	8	No	FAC
2 *Fraxinus pensylvanica*	15	Yes	FACW
3 *Salix nigra*	30	Yes	OBL
4			
5			
6			
7			
(50%/20% = 27 / 11)	53	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Fraxinus pensylvanica*	20	Yes	FACW
2			
3			
4			
5			
6			
7			
(50%/20% = 10 / 4)	20	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Phragmites australis*	30	Yes	FACW
2 *Solidago gigantea*	5	No	FACW
3 *Cornus racemosa*	5	No	FAC
4			
5			
6			
7			
(50%/20% = 20 / 8)	40	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (Include photo numbers here or on a separate sheet.)
Herbaceous vegetation was sparse
FAC Neutral: Yes.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
								Not collected

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- [ ] 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- [ ] Coast Prairie Redox (A16) **(LRR K, L, R)**
- [ ] 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- [ ] Dark Surface (S7) **(LRR K, L)**
- [ ] Polyvalue Below Surface (S8) **(LRR K, L)**
- [ ] Thin Dark Surface (S9) **(LRR K, L)**
- [ ] Iron-Manganese Masses (F12) **(LRR K, L, R)**
- [ ] Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- [ ] Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [x] Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A
Depth (inches):

Hydric Soil Present? Yes [x] No [ ]

Remarks:
Soils were not collected due to the wetland being ponded. Several feet of water was observed in some areas.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: A-15-W

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hill slope | Local Relief (concave, convex, none): none | Slope %: 3

Subregion (LRR or MLRA): LRR R | Latitude: 41 ° N | Longitude: -73. ° W | Datum: WGS 84

Soil Map Unit Name: Volusia channery silt loam, 0 to 8 percent slopes (VsB) | NWI Classification: None

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

Hydric Soil Present? Yes ☐ No ☑

Wetland Hydrology Present? Yes ☐ No ☑

Is the Sampled Area within a Wetland? Yes ☐ No ☑

If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Upland area adjacent to Wetland A.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☐ No ☑ Depth (inches):

Saturation Present? Yes ☐ No ☑ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Pinus strobus*	10	No	FACU
2 *Quercus rubra*	30	Yes	FACU
3 *Tsuga canadensis*	40	Yes	FACU
4			
5			
6			
7			
(50%/20% = 40 / 16)	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Quercus rubra*	2	Yes	FACU
2 *Pinus strobus*	2	Yes	FACU
3 *Vaccinium angustifolium*	1	Yes	FACU
4			
5			
6			
7			
(50%/20% = 2.5 / 1)	5	= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Stachys byzantina*	2	No	FACU
2			
3			
4			
5			
6			
7			
(50%/20% = 1 / 0.4)	2	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (Include photo numbers here or on a separate sheet.)
Herbaceous layer is mostly absent
FAC Neutral: No.
A stratum with less than 5 percent total cover is not considered in the dominance test, unless it is the only stratum present.

SOIL

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 8	10YR 5/4	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock gravel
Depth (inches): 8

Hydric Soil Present? Yes ☐ No ☑

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: B-7-W

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression | Local Relief (concave, convex, none): concave | Slope %: 0

Subregion (LRR or MLRA): LRR R | Latitude: 41 57'34.31'' ° N | Longitude: -73 58'50.48'' ° W | Datum: WGS 84

Soil Map Unit Name: Nassau Bath Rock Outcrop Complex, very steep (NBF) | NWI Classification: PFO

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐ **Is the Sampled Area within a Wetland? Yes ☑ No ☐**

Hydric Soil Present? Yes ☑ No ☐

Wetland Hydrology Present? Yes ☑ No ☐ If yes, optional Wetland Site ID: B

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☑ No ☐ Depth (inches): 1

Saturation Present? Yes ☑ No ☐ Depth (inches): 1

(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Acer rubrum*	30	Yes	FAC
2 *Quercus rubra*	5	No	FACU
3			
4			
5			
6			
7			
(50%/20% = 18 / 7)	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Acer rubrum*	5	Yes	FAC
2 *Carpinus caroliniana*	5	Yes	FAC
3 *Lindera benzoin*	10	Yes	FACW
4 *Cornus racemosa*	2	No	FAC
5			
6			
7			
(50%/20% = 11 / 4.4)	22	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☑ Dominance test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide Supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

FAC Neutral: Yes

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 3/2	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: NONE

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: B-7-Up

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope | Local Relief (concave, convex, none): none | Slope %: 3

Subregion (LRR or MLRA): LRR R | Latitude: 41 ° N | Longitude: -73. ° W | Datum: WGS 84

Soil Map Unit Name: Nassau Bath Rock Outcrop Complex, very steep (NBF) | NWI Classification: None

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

Hydric Soil Present? Yes ☐ No ☑

Wetland Hydrology Present? Yes ☐ No ☑

Is the Sampled Area within a Wetland? Yes ☐ No ☑

If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Upland area adjacent to Wetland B.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☐ No ☑ Depth (inches):

Saturation Present? Yes ☐ No ☑ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Quercus rubra*	50	Yes	FACU
2 *Tsuga canadensis*	10	No	FACU
3 *Acer rubrum*	8	No	FAC
4 *Quercus alba*	5	No	FACU
5			
6			
7			
(50%/20% = 37 / 15)	73	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Pinus strobus*	2	No	FACU
2			
3			
4			
5			
6			
7			
(50%/20% = 1 / 0.4)	2	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Vaccinium angustifolium*	3	Yes	FACU
2 *Polystichum acrostichoides*	2	Yes	FACU
3			
4			
5			
6			
7			
(50%/20% = 2.5 / 1)	5	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

FAC Neutral: No.

A stratum with less than 5 percent total cover is not considered in the dominance test, unless it is the only stratum present.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 5/4	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock gravel

Depth (inches): 0

Hydric Soil Present? Yes ☐ No ☑

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: C-16-W

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): | Local Relief (concave, convex, none): concave | Slope %: 1

Subregion (LRR or MLRA): LRR R | Latitude: 41 57'49.10'' ° N | Longitude: -73 58'32.84'' ° W | Datum: WGS 84

Soil Map Unit Name: Nassau Bath Rock Outcrop Complex, very steep (NBF) | NWI Classification: PFO

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐ **Is the Sampled Area within a Wetland? Yes ☑ No ☐**

Hydric Soil Present? Yes ☑ No ☐

Wetland Hydrology Present? Yes ☑ No ☐ If yes, optional Wetland Site ID: C

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): <1

Water Table Present? Yes ☑ No ☐ Depth (inches): 0

Saturation Present? Yes ☑ No ☐ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Acer rubrum*	30	Yes	FAC
2 *Quercus rubra*	10	Yes	FACU
3			
4			
5			
6			
7			
(50%/20% = 20 / 8)	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Carpinus caroliniana*	10	Yes	FAC
2			
3			
4			
5			
6			
7			
(50%/20% = 5 / 2)	10	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Glyceria striata*	10	Yes	OBL
2			
3			
4			
5			
6			
7			
(50%/20% = 5 / 2)	10	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☑ Dominance test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide Supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

FAC Neutral: Yes.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☑ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: NONE

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Soils were frozen, a large portion of this wetland was inundated to a depth of several inches. Hydric soils can be assumed to be present.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: C-16-Up

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope | Local Relief (concave, convex, none): none | Slope %: 3

Subregion (LRR or MLRA): LRR R | Latitude: 41 ° N | Longitude: -73. ° W | Datum: WGS 84

Soil Map Unit Name: Nassau Bath Rock Outcrop Complex, very steep (NBF) | NWI Classification: None

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

Hydric Soil Present? Yes ☐ No ☑

Wetland Hydrology Present? Yes ☐ No ☑

Is the Sampled Area within a Wetland? Yes ☐ No ☑

If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Upland area adjacent to Wetland C.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☐ No ☑ Depth (inches):

Saturation Present? Yes ☐ No ☑ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Quercus rubra*	50	Yes	FACU
2 *Tsuga canadensis*	10	No	FACU
3 *Acer rubrum*	8	No	FAC
4 *Quercus alba*	5	No	FACU
5			
6			
7			
(50%/20% = 37 / 15)	73	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Pinus strobus*	2	No	FACU
2			
3			
4			
5			
6			
7			
(50%/20% = 1 / 0.4)	2	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Vaccinium angustifolium*	3	Yes	FACU
2 *Polystichum acrostichoides*	2	Yes	FACU
3			
4			
5			
6			
7			
(50%/20% = 2.5 / 1)	5	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

FAC Neutral: No.

A stratum with less than 5 percent total cover is not considered in the dominance test, unless it is the only stratum present.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 5/4	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock gravel

Depth (inches): 0

Hydric Soil Present? Yes ☐ No ☑

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: D-14-W

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression | Local Relief (concave, convex, none): concave | Slope %: 2

Subregion (LRR or MLRA): LRR R | Latitude: 41 57'51.20'' ° N | Longitude: -73 58'30.59'' ° W | Datum: WGS 84

Soil Map Unit Name: Bath Nassau Rock Outcrop (BOD) | NWI Classification: PFO

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐ **Is the Sampled Area within a Wetland? Yes ☑ No ☐**

Hydric Soil Present? Yes ☑ No ☐

Wetland Hydrology Present? Yes ☑ No ☐ If yes, optional Wetland Site ID: D

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☑ No ☐ Depth (inches): 1

Saturation Present? Yes ☑ No ☐ Depth (inches): 1

(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Acer rubrum*	20	Yes	FAC
2 *Fraxinus pennsylvanica*	10	Yes	FACW
3			
4			
5			
6			
7			
(50%/20% = 15 / 6)	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Carpinus caroliniana*	30	Yes	FAC
2 *Acer rubrum*	5	No	FAC
3			
4			
5			
6			
7			
(50%/20% = 18 / 7)	35	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Spiraea alba*	20	Yes	FACW
2 *Onoclea sensibilis*	5	No	FACW
3 *Cornus amomum*	10	Yes	FACW
4			
5			
6			
7			
(50%/20% = 18 / 7)	35	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *None*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☑ Dominance test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide Supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

FAC Neutral: Yes.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 4/1	95	10 YR 4/6	5	C	M	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: D-9-Up

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): terrace | Local Relief (concave, convex, none): none | Slope %: 5

Subregion (LRR or MLRA): LRR R | Latitude: 41 ° N | Longitude: -73. ° W | Datum: WGS 84

Soil Map Unit Name: Bath Nassau Rock Outcrop (BOD) | NWI Classification: None

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

Hydric Soil Present? Yes ☐ No ☑

Wetland Hydrology Present? Yes ☐ No ☑

Is the Sampled Area within a Wetland? Yes ☐ No ☑

If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Upland area between Wetlands D and E.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☐ No ☑ Depth (inches):

Saturation Present? Yes ☐ No ☑ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Pinus strobus*	8	Yes	FACU
2 *Acer saccharum*	25	Yes	FACU
3 *Tsuga canadensis*	8	No	FACU
4			
5			
6			
7			
(50%/20% = 21 / 8.2)	41	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Pinus strobus*	5	Yes	FACU
2			
3			
4			
5			
6			
7			
(50%/20% = 2.5 / 1)	5	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (Include photo numbers here or on a separate sheet.)
A herbaceous layer is absent in this area.
FAC Neutral: No.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 5/4	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A
Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Lincoln Park Grid Support Center | City/County: Town of Ulster, Ulster County | Sampling Date: 12/11/2018

Applicant/Owner: Lincoln Park DG, LLC | State: NY | Sampling Point: E-2-W

Investigator(s): David MacDougall | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression | Local Relief (concave, convex, none): concave | Slope %: 1

Subregion (LRR or MLRA): LRR R | Latitude: 41 57'49.88'' ° N | Longitude: -73 58'25.83'' ° W | Datum: WGS 84

Soil Map Unit Name: Bath Nassau Rock Outcrop (BOD) | NWI Classification: PSS

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

Are Vegetation ☐, Soil ☐, or hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or hydrology ☐ naturally problematic? (If needed, explain any answers in remarks.)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

Hydric Soil Present? Yes ☑ No ☐

Wetland Hydrology Present? Yes ☑ No ☐

Is the Sampled Area within a Wetland? Yes ☑ No ☐

If yes, optional Wetland Site ID: E

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of 2)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches):

Water Table Present? Yes ☐ No ☑ Depth (inches):

Saturation Present? Yes ☑ No ☐ Depth (inches): 8

(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION - Use Scientific Names of Plants.

Tree Stratum (Plot size: 20' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *Acer rubrum*	15	Yes	FAC
2			
3			
4			
5			
6			
7			
(50%/20% = 7.5 / 3)	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1 *Lindera benzoin*	60	Yes	FACW
2 *Ilex verticillata*	5	No	FACW
3			
4			
5			
6			
7			
(50%/20% = 33 / 13)	65	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Vegetation (continued)

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	
Woody Vine Stratum (Plot size: 5' radius)			
1 *NONE*			
2			
3			
4			
5			
6			
7			
(50%/20% = 0 / 0)	0	= Total Cover	

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☑ Dominance test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide Supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

Woody Vines: All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)
A herbaceous layer was absent.
FAC Neutral: Yes.

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 3/2	100					Silt loam	
4-12	10 YR 7/2	95	10 YR 4/6	5	C	M	Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) **(LRR K, L)**
- ☐ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TX6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A
Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks:

APPENDIX G

2015 WOTUS

2015 Clean Water Rule Cheat Sheet

WATERS OF THE U.S.: The term "waters of the United States" means:

(a)(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(a)(2) All interstate waters, including interstate wetlands;

(a)(3) The territorial seas;

(a)(4) All impoundments of waters otherwise identified as waters of the United States under this section;

(a)(5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;

(c)(3) Tributary and tributaries. The terms tributary and tributaries each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (a)(4) of this section), to a water identified in paragraphs (a)(1) through (3) of this section that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

(a)(6) All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;

(c)(1) Adjacent. The term adjacent means bordering, contiguous, or neighboring a water identified in paragraphs (a)(1) through (5) of this definition, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

(c)(2) Neighboring. The term neighboring means:

(c)(2)(i) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark;

(c)(2)(ii) All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (5) of this section and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100-year floodplain;

(c)(2)(iii) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (a)(1) or (a)(3) of this section, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes.

(a)(7) All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section.

(a)(7)(i) Prairie potholes.

(a)(7)(ii) Carolina bays and Delmarva bays.

(a)(7)(iii) Pocosins.

(a)(7)(iv) Western vernal pools.

(a)(7)(v) Texas coastal prairie wetlands.

(a)(8) All waters located within the 100- year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section.

Not an official document; refer to 33CFR328.3 for official information.

2015 Clean Water Rule Cheat Sheet

EXCLUSIONS: 33CFR328.3(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.

(b)(1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(b)(2) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

(b)(3) The following ditches:

- **(b)(3)(i)** Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
- **(b)(3)(ii)** Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
- **(b)(3)(iii)** Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.

(b)(4) The following features:

- **(b)(4)(i)** Artificially irrigated areas that would revert to dry land should application of water to that area cease;
- **(b)(4)(ii)** Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
- **(b)(4)(iii)** Artificial reflecting pools or swimming pools created in dry land;
- **(b)(4)(iv)** Small ornamental waters created in dry land;
- **(b)(4)(v)** Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
- **(b)(4)(vi)** Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and
- **(b)(4)(vii)** Puddles.

(b)(5) Groundwater, including groundwater drained through subsurface drainage systems.

(b)(6) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(b)(7) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

APPENDIX H

Landowner Forms

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: New York - NY | File/ORM #: | PJD Date: Feb 8, 2019

State: NY | City/County: Town of Ulster / Ulster County

Nearest Waterbody: Esopus Creek

Location: TRS, LatLong or UTM: 41o57'51.20'' and -73o58'30.59

Name/ Address of Person Requesting PJD:
Lincoln Park DG, LLC
132 N, York Street, Suite 3L
Elmhurst, IL 60126
Consultant:
The Chazen Companies, Attn: Barbara Beall
20 Elm St - Suite 110, Glens Falls NY 12801

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: x linear ft | x width | x.xx acres | Stream Flow: N/A

Wetlands: 0.9 acre(s) | Cowardin Class: Palustrine, forested

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: none | Non-Tidal: none

☐ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: USGS National Map Kingston East
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Ulster County 1979
- ☑ National wetlands inventory map(s). Cite name: USFWS GIS Data
- ☑ State/Local wetland inventory map(s): NYSDEC GIS Data
- ☐ FEMA/FIRM maps: FIRM 36111C0480E
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Esri, DigitalGlobe, GeoEye, Earthstar Geographic
  - ☑ Other (Name & Date): Site Photos taken December 14, 2018
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

CONSENT OF PROPERTY OWNER(S)

DATE: _____

Property: State Route 32, Ulster, NY
Tax Map Number: 48.12-1-20

Lincoln Park DG, LLC is the owner of the above noted property. I certify that I am authorized to grant the US Army Corps of Engineers (ACOE) access to the above noted property for the purpose of determining the limits of federal jurisdictional wetlands and other waters of the United States on said property.

Signed: _____

Printed: _____

Title: _____

ATTACHMENT D
Proposed Monitoring Well Abandonment Letter

STERLING

Sterling Environmental Engineering, P.C.

March 12, 2019

David Young, P.E.
Project Manager
The Chazen Companies
21 Fox Street
Poughkeepsie, New York 12601

via Email (dyoung@chazencompanies.com)

Subject: Proposed Monitoring Well Abandonment
Lands Now or Formerly of Kingston Landing Development LLC, Ulster, New York
STERLING File #26060

Dear Mr. Young,

In support of your Client's plan to develop the parcel south of the closed Town of Ulster Landfill it is our understanding that one monitoring well (SBW-4) and three (3) PVC piezometers need to be decommissioned to complete site development as indicated on The Chazen Companies' Preliminary Site Plan (Attachment 1, PRELIM Sheet SP1). Sterling Environmental Engineering, P.C. (STERLING), on behalf of the Ulster County Resource Recovery Agency (UCRRA), has communicated with the NYSDEC Division of Solid Waste Region 3 Project Manager (Ms. Ella M. Cattabiani) to obtain the Department's approval to abandon offsite monitoring well SBW-4, which is not part of the Town of Ulster Landfill long term monitoring program, and the three (3) other points in accordance with procedures and protocols as outlined in CP-43 (Attachment 2, CP-43: Groundwater Monitoring Well Decommissioning Policy). Ms. Cattabiani accepted the premise that your Client can abandon monitoring well SBW-4 and the other three (3) points as specified since onsite groundwater quality is consistent and stable south of the closed Town of Ulster Landfill with no evidence of offsite landfill gas migration.

Once well abandonment has been completed, UCRRA requests that documentation be provided to confirm that these groundwater monitoring wells were decommissioned in accordance with applicable State standards. UCRRA will convey this information to the NYSDEC for their records.

Please contact me should you have any questions or need additional information.

Very truly yours,

STERLING ENVIRONMENTAL ENGINEERING, P.C.

Mark A. Williams, P.G.
Senior Geologist
mark.williams@sterlingenvironmental.com

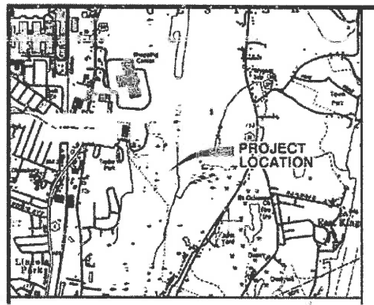
MAW/bc
Email/First Class Mail
Attachments

cc: Timothy B. Rose, P.E., BCEE, QEP, M.P.A. (UCRRA)
Ella M. Cattabiani (NYSDEC)

S:\Sterling\Projects\2006 Projects\UCRRA - Environmental Sampling - 26060\Correspondence\2019\2019-03-12_Chazen_Proposed MW Abandonment_ltr.docx

ATTACHMENT 1

Preliminary Site Plan (Chazen, January 30, 2018)



SITE LOCATION PLAN: 1"=2000'

WETLAND/STREAM TABLE	
WETLAND OR STREAM	ON-SITE AREA (acres)
Wetland A	0.365 acres
Wetland B	0.061 acres
Wetland C	0.235 acres
Wetland D	0.185 acres
Wetland E	0.041 acres
JURISDICTIONAL AREA	11.317 acres

WELL TO BE ABANDONED

Lands Now or Formerly of
Ulster County Resource Recovery Facility
48.012-1-21.2
Liber 2281 Page 299

Lands Now or Formerly of
TILCON MINERALS, INC.
48.012-1-19
Liber 1937 Page 195

FRANK SOTTILE BOULEVARD

MIRON LANE

BEARING AND DISTANCE FROM #5 TO CORNER FOR MAP REFERENCE 1
S58°46'53"W
2.27'

BEARING AND DISTANCE FROM #5 TO CORNER FOR MAP REFERENCE 1
S63°58'24"W
2.85'

BENCHMARK "x" CUT ON BASE ELEV.=267.41

BENCHMARK SPIKE IN 14" OAK ELEV.=267.61

TAX PARCEL DESIGNATION:

TOWN OF ULSTER, ULSTER COUNTY, NEW YORK
PORTION OF SECTION 48.012 BLOCK 1 LOT 20

MAP REFERENCE:

1. MAP ENTITLED "ALTA/NSPS LAND TITLE SURVEY OF LANDS TO BE CONVEYED TO GLIDEPATH SOLUTIONS N.Y.S. ROUTE 32 (A FRANK SOTTILE BOULEVARD" PREPARED BY BRINNER & LARIOS P.C. AND DATED OCTOBER 2, 2017 (PROVIDED BY CLIENT)

PARCEL AREA:

454,137,363 SQ.FT.± OR 10.425 ACRES±

GENERAL NOTES:

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S INKED SEAL OR HIS EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES

SUBSURFACE STRUCTURES NOT VISIBLE OR READILY APPARENT ARE NOT SHOWN AND THEIR LOCATION AND EXTENT ARE NOT CERTIFIED

THE CONTRACTOR SHALL COMPLY WITH NEW YORK STATE INDUSTRIAL CODE RULE 53 - 48 HOURS PRIOR TO DIGGING CALL U.F.P.O. 1-800-962-7962 TO HAVE PUBLIC UTILITY LOCATIONS PAINTED.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

HORIZONTAL DATUM AND NORTH ORIENTATION ARE BASED ON GPS OBSERVATIONS, OR THE NYSDOT RTN NETWORK NYS PLANE COORDINATE SYSTEM (NAD83 EAST ZONE) ON OCTOBER 17, 2018

VERTICAL DATUM IS BASED ON A SURFACE FROM BRINNER & LARIOS

SUBJECT TO COVENANTS, EASEMENTS, RESTRICTIONS, CONDITIONS AND AGREEMENTS OF RECORD.

SUBJECT TO ANY STATE OF FACTS AN UP TO DATE ABSTRACT OF TITLE WOULD DISCLOSE

POTENTIAL AQUATIC RESOURCES DELINEATED BY DAVID MACDOUGALL AND AMANDA MCCOY OF THE CHAZEN COMPANIES ON DECEMBER 11, 2018

PROPERTY LINES SHOWN HEREON PER MAP REFERENCE 1

6" OF SNOW COVER AT TIME OF SURVEY.

LEGEND:

EXISTING CONDITIONS:

- PROPERTY LINE PER MAP REFERENCE 1
- ADJACENT PROPERTY LINE PER MAP REFERENCE 1
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING SPOT GRADE
- EXISTING PROPERTY EASEMENT
- NYSDEC WETLANDS AREA
- ACOE WETLANDS LINE
- EXISTING GRAVEL DRIVEWAY
- EXISTING GUIDERAIL
- EXISTING FENCE
- JURISDICTIONAL LIMIT
- EXISTING POND/LAKE
- EXISTING TREE LINE
- EXISTING BRUSH LINE
- OHW — EXISTING OVERHEAD WIRES
- UE — EXISTING UNDERGROUND ELECTRIC LINE
- UT — EXISTING UNDERGROUND COMMUNICATIONS LINE
- C — EXISTING UNDERGROUND CABLE LINE
- ST — EXISTING UNDERGROUND STORM LINE

SYMBOLS:

- EXISTING SIGN
- EXISTING SIGN
- EXISTING REFLECTOR MARKER
- EXISTING WIRE MARKER
- EXISTING BOLLARD
- EXISTING FENCE POST
- EXISTING POST
- EXISTING MONUMENT
- EXISTING IRON ROD FOUND
- EXISTING BENCHMARK
- EXISTING END SECTION
- EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC BOX
- EXISTING ELECTRIC TRANSFORMER
- EXISTING GUY WIRE
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/ LIGHT
- EXISTING PANEL/SYSTEM BOX
- EXISTING CONDUIT TO/FROM UNDERGROUND
- EXISTING TRAFFIC SIGNAL CONTROL BOX
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING TRAFFIC SIGNAL POLE
- EXISTING CABLE TV PEDESTAL
- EXISTING TELEPHONE LINE MARKER
- EXISTING TELEPHONE PEDESTAL
- EXISTING GAS LINE MARKER
- EXISTING WETLAND BOUNDARY FLAG
- EXISTING INVERT ELEVATION
- ON-SITE WETLAND

PRELIM

0 1 2 5
ORIGINAL SCALE IN INCHES

A HEIGHT ACCURACY RATE THIS SURVEY MAP IS BASED ON AN ASCAM FIELD SURVEY COMPLETED ON JANUARY 25, 2018 THAT THIS SURVEY MAP WAS MADE BY ME OR UNDER MY DIRECTION, AND CONFORMS WITH THE MINIMUM STANDARDS OF PRACTICE ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS.

BRUCE D. WELLS, L.S. #19629

CHAZEN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE, CO., D.P.C.

THE Chazen COMPANIES

Office Locations:

- Hudson Valley Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980
- Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055
- Northeast Development Office: 3416 21st Ave S. (Suite 103), Nashville, Tennessee 37212, Phone: (615) 385-1359
- North County Office: 217 Glen Street (Suite 110), Glens Falls, New York 12801, Phone: (518) 812-0513
- Westchester NY Office: 1 North Broadway, Suite 802, White Plains, New York 10601, Phone: (914) 997-8510
- Chattanooga Tennessee Office: 427 E. 5th St. (Suite 201), Chattanooga, Tennessee 37403, Phone: (423) 241-6375

rev.	date	description

LINCOLN PARK GRID SUPPORT CENTER, GLIDEPATH ULSTER - EAST SIDE

LANDS NOW OR FORMERLY OF KINGSTON LANDING DEVELOPMENT LLC EXISTING CONDITIONS

TOWN OF ULSTER, ULSTER COUNTY, NEW YORK

designed	checked
DML	BDW
date	scale
01/30/18	1"=50'
project no.	
31788.05	
sheet no.	
SP1	

Drawing Name: S:\Projects\31200-31999\31788\01 Reports Maps\Civil\05_SVY_31788-05_EXIST.dwg
Xrefs Attached: dPAGE_SVY_31788-05
Date Plotted: Feb 08, 2018, 3:56pm

ATTACHMENT 2

CP-43: Groundwater Monitoring Well Decommissioning Policy

CP-43:Groundwater Monitoring Well Decommissioning Policy

New York State Department of Environmental Conservation

DEC POLICY

Issuing Authority: Commissioner Alexander B. Grannis

Date Issued: November 3, 2009	**Latest Date Revised:**

I. Summary:

Groundwater monitoring wells provide essential access to the subsurface for scientific and engineering investigations (including monitoring wells installed for leak detection purposes). To a degree, every monitoring well is an environmental liability because of the potential to act as a conduit for pollution to reach the groundwater. To limit the environmental risk, a groundwater monitoring well must be properly decommissioned when its effective life has been reached. This document provides procedures to satisfactorily decommission groundwater monitoring wells in New York State. This policy also pertains to other temporary wells such as observation wells, test wells, de-watering wells and other small diameter, non-potable water wells. It does not pertain to water supply wells.

II. Policy:

Environmental monitoring wells should be decommissioned when:

1. they are no longer needed and re-use by another program is not an option; or
2. the well's integrity is suspect or compromised.

The method for decommissioning will be determined based upon well construction and environmental parameters. The method selected must be designed to protect groundwater and implemented according to current best engineering practices while following all applicable federal, state and local regulations. *Groundwater Monitoring Well Decommissioning Procedures* shall be maintained as an addendum to this policy.

This policy is applicable to all New York State Department of Environmental Conservation (DEC) programs that install, utilize and maintain monitoring wells for the study of groundwater, except monitoring wells for landfills regulated under 6 NYCRR Part 360 decommissioned in accordance with those regulations [*see* 6 NYCRR 360-2.11(a)(8)(vi)] and wells installed under the Oil, Gas and Solution Mining Law, Environmental Conservation Law Article 23. There is no specific time frame to dictate when to decommission a well; timing is dependent upon the use and condition of the well

and shall be determined on an individual basis. Best professional judgment must be exercised when using the decommissioning procedures. Outside of DEC use, this policy is mandatory when incorporated into the specifications of a state contract, an Order on Consent or a permit. In all other situations, it shall serve as guidance.

III. Purpose and Background:

This document establishes a monitoring well decommissioning policy and provides technical guidance. Synonyms for well decommissioning include "plugging," "capping" and "abandoning. For consistency, only the term "decommissioning" is used within this document.

Unprotected, neglected and improperly abandoned monitoring wells are a serious environmental liability. They can function as a pollution conduit for surface contaminants to reach the subsurface and pollute our groundwater. They also can cause unwanted mixing of groundwater, which degrades the overall water quality within an aquifer. Improperly constructed, poorly maintained or damaged monitoring wells can yield anomalous poor data that can compromise the findings of an environmental investigation or remediation project. Unneeded or compromised monitoring wells should be properly decommissioned in order to prevent harm to our groundwater.

Since 1980, the DEC has installed, directed or overseen the installation of thousands of monitoring wells throughout New York for various state and federal programs, such as Superfund, solid waste, Resource Conservation and Recovery Act (RCRA), spill response, petroleum bulk storage and chemical bulk storage. This guidance addresses the environmental liability associated with this aging network of wells.

Within its boring zone, a successfully decommissioned well prevents the following:

1. Migration of existing or future contaminants into an aquifer or between aquifers;
2. Migration of existing or future contaminants within the vadose zone;
3. Potential for vertical or horizontal migration of fluids in the well or adjacent to the well; and
4. Any change in the aquifer yield and hydrostatic head, unless due to natural conditions.

Monitoring well construction in New York varies considerably with factors such as age of the well, local geology and either the presence or absence of contamination. The predominant type of monitoring well in New York is the shallow, watertable monitoring well constructed of polyvinyl chloride plastic (PVC). The best method for decommissioning should be selected to suit the conditions and circumstances. Each decommissioning situation is to be evaluated separately using this guidance before a method is chosen and implemented.

IV. Responsibility:

The Division of Environmental Remediation (DER) is responsible for updating this policy and the *Groundwater Monitoring Well Decommissioning Procedures* (addendum) in consultation with the Division of Solid and Hazardous Materials (DSHM) and the Division of Water (DOW). Compliance with the guidance does not relieve any party of the obligation to properly decommission a monitoring well. Oversight responsibility will be carried out by the DEC Regional Engineer.

V. Procedure:

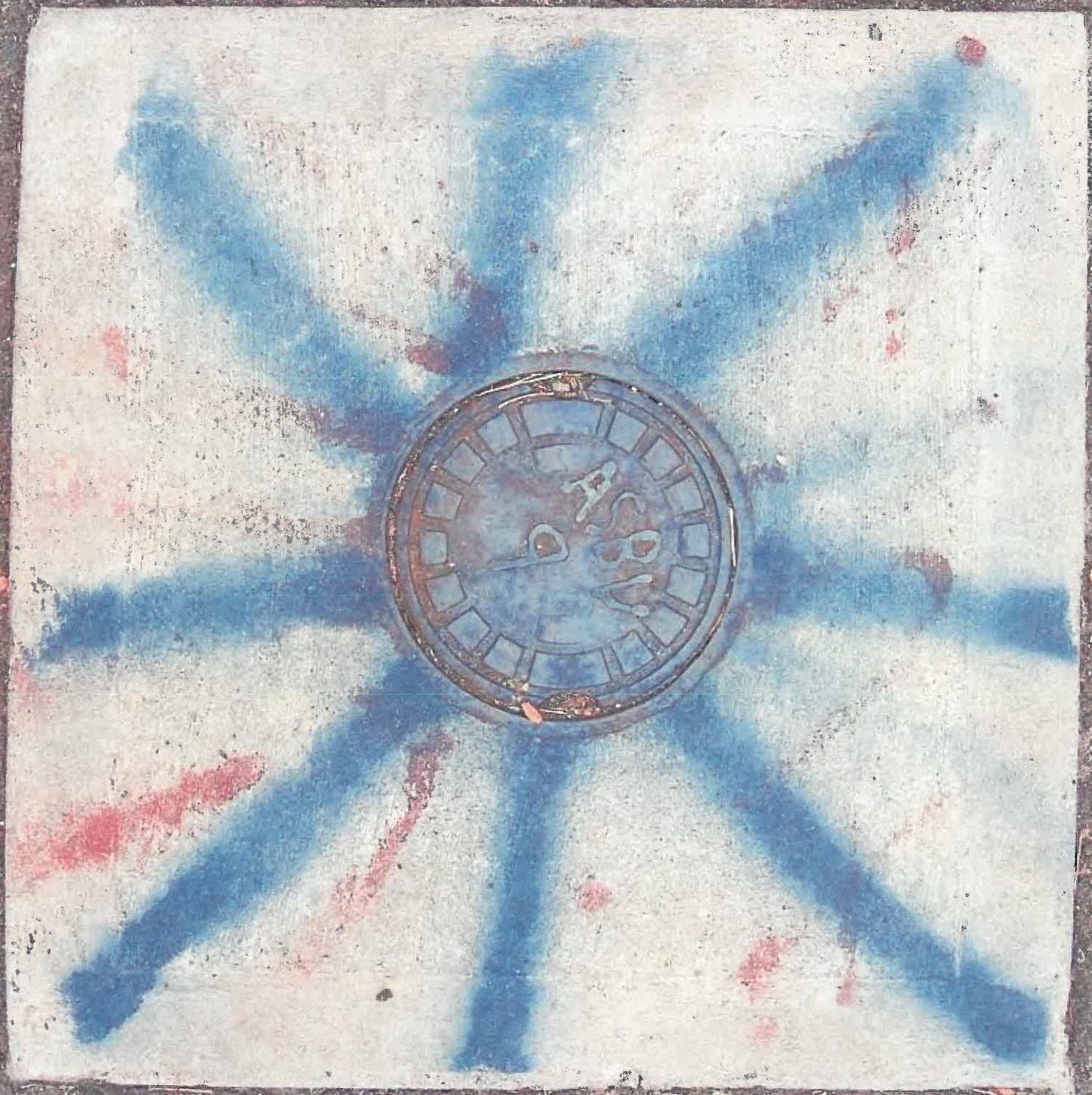
Groundwater Monitoring Well Decommissioning Procedures, the addendum to this policy, provides guidance on proper decommissioning of monitoring wells in New York State.

VI. Related References:

- Groundwater Monitoring Well Decommissioning Procedures, October 1986. Prepared by Malcolm Pirnie, Inc. for the New York State Department of Environmental Conservation, Division of Environmental Remediation.
- Standard Guide for the Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities, ASTM D 5299-99. American Society for Testing and Materials (ASTM). Philadelphia. 2005.
- 6 NYCRR Part 360 Solid Waste Management Facilities, New York State Department of Environmental Conservation, Division of Solid and Hazardous Materials.
- Specifications for Abandoning Wells and Boreholes in Unconsolidated Materials, New York State Department of Environmental Conservation, Region 1 - Water Unit, undated.
- Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells, EPA 600/4-89/034, United States Environmental Protection Agency (EPA).

Final - August 2009

GROUNDWATER MONITORING WELL DECOMMISSIONING PROCEDURES



New York State Department of Environmental Conservation
Division of Environmental Remediation

ATTACHMENT E
Rare, Endangered, Threatened Species Report

Rare, Threatened, and Endangered Species Report

LINCOLN PARK GRID SUPPORT CENTER

State Route 32

Town of Ulster
Ulster County, New York

March 25, 2019

THE Chazen COMPANIES®
Proud to be Employee Owned

Civil Engineers
Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

Prepared for:

Lincoln Park DG, LLC
132 N. York Street, Suite 3L
Elmhurst, IL 60126

Rare, Threatened, and Endangered Species Report

LINCOLN PARK GRID SUPPORT CENTER

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Prepared by:

Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C.

21 Fox Street
Poughkeepsie, NY 12601
(845) 454-3980

HUDSON VALLEY • CAPITAL DISTRICT • NORTH COUNTRY • WESTCHESTER • NASHVILLE, TN
Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C. (New York)
Chazen Engineering Consultants, LLC (Tennessee)

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

LIMITATIONS: This Endangered and Threatened Species Habitat Assessment Report represents the professional opinion of The Chazen Companies regarding the potential for the habitat at the Project Site to support endangered and threatened species that may exist in the area. Opinions presented in this report also apply to site conditions and regulations existing at the time of Chazen's review and may not necessarily apply to future site conditions and/or regulations, which may change over time. This opinion is not legally binding upon the US Fish and Wildlife Service, the New York State Department of Environmental Conservation and/or any SEQRA Lead Agency. Reliance on this report without consultation with those agencies is solely at the risk of the Client.

1. CONTEXT OF SITE

The Project Site is being reviewed to construct a battery array to provide capacity and ancillary services to the regional electric grid, and this is a Rare, Threatened, and Endangered Species Report in support of that project, known as the Lincoln Park Grid Support Center (LPGSC) (also "the Project."). Figure 1 shows the location of the Project on the Kingston East, NY USGS topographic quadrangle. The Project is located on a 10.42-acre portion of a 41.2-acre parcel identified as Tax Parcel 48.12-1-20, located in Town of Ulster, Ulster County, New York. The Threatened, and Endangered Species assessment was completed within a Project Study Area, defined as an 10.42-acre Jurisdictional Area. The Project Study Area is mostly occupied by upland forest and wetlands. See Figure 2, Orthophoto.

On December 11, 2018, Chazen environmental scientist David MacDougall delineated the boundaries of wetlands in the Project Study Area. Information about that delineation is found within the Wetland Delineation Report. During that field delineation, the Project Study Area's habitats were reviewed for their potential to support Rare, Threatened, and Endangered Species (RTE) species. In addition, a review of federal and state records was completed for endangered and rare species. This report summarizes the result of the Preliminary Assessment for Rare, Threatened, and Endangered Species in the Project Study Area.

2. REVIEW OF RECORDS ON RARE, THREATENED, AND ENDANGERED SPECIES

2.1 Mapping Review

To begin the review of this Project Site, Chazen examined the following mapping, which is provided in Attachment A, "Background Mapping Review." The purpose of this review was to identify the location of various habitat features (e.g., steep slopes, woods, wetlands, etc.) present at the Project Study Area and the surrounding area.

- United States Geologic Service (USGS) topographic maps (Figure A-1);
- Orthophoto of the Project Area (Figure A-2);
- NYSDEC Rare, Threatened, and Endangered Species Mapping (Figure A-3);
- New York State Department of Environmental Conservation (NYSDEC) Wetlands and Watercourse Mapping (Figure A-4); and
- National Wetlands Inventory (NWI) Mapping (Figure A-5);

2.2 Federal Record Review

To determine potential ETR species that may occur in the vicinity of the Project Study Area, Chazen obtained an official list of species from the United States Fish and Wildlife Service (USFWS) Information Planning and Conservation System (IPaC) website[1]. See Attachment B, US Fish & Wildlife Service Official Species List. The Project Site is identified as being in the range of the following species by the USFWS:

- Indiana bat (*Myotis sodalis*) (Endangered)
- Northern long eared bat (*Myotis septentrionalis*) (Threatened)
- Bog turtle (*Glyptemys muhlenbergii*) (Threatened)

[1] http://ecos.fws.gov/ipac/ (accessed on 02/22/2019).

"Critical habitat" is not designated by the USFWS within the Project Site.[2]

2.3 State Record Review

Chazen also viewed output from the NYSDEC Environmental Resource Mapper internet application. A review of the NYSDEC Environmental Resource Mapper indicates that the Project Study Area lies within a state occurrence record for a known state-listed Rare, Threatened, or Endangered Species. As shown in Attachment A, Figure A-3, this area is illustrated with orange diagonal striping.

Chazen subsequently submitted an inquiry to the New York Natural Heritage Program (NYNHP) requesting information regarding known occurrences of endangered and threatened species in the vicinity of the Project Site. A response from the NYNHP dated March 19, 2019 is included in Attachment C. The NYNHP identified a northern long-eared bat hibernaculum within 2 miles of the Project Study Area. Regarding northern long-eared bats, it is noted that there are no identified summer occurrence records of maternity roost trees in Ulster County, per the NYSDEC website.[3].

2.4 Habitat Requirements

Habitat requirements for the ETR species identified above are provided below in Table 1.

Table 1 Suitable Habitat Requirements for Potential ETR Species

Species Name	Regulatory Status	Preferred Habitat
Indiana bat[a] (*Myotis sodalis*)	Federally and State-listed Endangered	Suitable summertime roosting habitat is characterized by wooded areas with trees that have sun exposure for at least half of the day, are ≥ 5 in. diameter at breast height (dbh), and exhibit specific physical traits (e.g., exfoliating bark, crevices, dead limbs, snags). Hibernation sites include caves and mines with stable temperatures and relatively high humidity (usually above 74%) for overwintering. Suitable foraging habitat includes riparian/floodplain forests, upland forests, as well as open fields and pastures with scattered trees.
Northern long-eared bat[a] (*Myotis septentrionalis*)	Federally-listed Threatened; State-listed Threatened	The reproductive habits of this bat are not well known. It is believed that they behave similarly to the Indiana bat, with the females congregating in maternity colonies in the spring, often using trees with cavities, crevices, and loose bark for daytime roosts. They may also roost in buildings and behind shutters. They are associated with mature interior forest and may prefer foraging on forested ridges and hillsides.
Bog turtle[a] (*Clemmys* [*Glyptemys*] *muhlenbergii*)	Federally-listed Threatened; State-listed Endangered	Usually found in association with fens, which are wetlands dominated by herbaceous vegetation and that receive calcareous groundwater discharge through seepage and small streams (rivulets). Other habitats include open-canopy wet meadows, cow pastures, shrub swamps and forested wetlands with emergent wetland openings. As with fens, these wetlands usually have small rivulets fed by groundwater, deep muck soils and emergent vegetation with exposure to the sun, especially with abundant sedges.
[a]Sources: New York Natural Heritage Program. 2017. Online Conservation Guides. Available from: http://www.acris.nynhp.org.		

[2] Critical habitat in New York State is limited to the Great Lakes breeding population of piping plover in Jefferson and Oswego Counties.
[3] NYSDEC. 2018. NYSDEC Website - Protection of Northern Long-eared Bats. https://www.dec.ny.gov/animals/106090.html

3. GENERAL SITE DESCRIPTION

3.1 Topography

Figure 1 is a topographic map of the section of the Town of Ulster where the Project Site is located. The site lies within an area of rolling topography. There is approximately 30 feet of relief within the Project Study Area. The Project Site lies within the watershed of the Hudson River.

3.2 Soils and Bedrock Geology

As described in the Wetland Delineation Report, there are three soil mapping unit types mapped within the Project Study Area as described below:

- Bath-Nassau-Rock outcrop complex, Hilly (BOD). This map unit consists of a deep, well drained Bath soil and a shallow, somewhat excessively drained Nassau soil and small areas of exposed bedrock. The soils formed in glacial till. Areas are mainly on a series of ridges that are cored by folded, shale, slate, siltstone and sandstone bedrock. These ridges are generally oriented in a northeast-southwest direction. Relief is very irregular. The Bath soil is in the convex inter-ridge areas where runoff does not accumulate, and the Nassau soil is on the ridge sideslopes and is intermingled with rock outcrops on ridgetops. Relief is irregular. Slopes are short and generally complex. They are mainly 10 to 25 percent, but range from 10 to 30 percent. Areas very in size and shape. The unit is made up of 40 percent Bath gravely silt loam, about 25 percent Nassau shaly silt loam, about 15 percent Rock outcrop and about 20 percent other soils. These soils and Rock outcrop area in such an intricate pattern that they are not shown separately on the soil map. The Bath soil may have a perched water table from 2 to 4 feet below the grade from November to March, with the Nassau soil having a high-water table of greater than 6 feet. Bedrock is 40 inches below grade in the Bath soils, and 10 to 20 inches below grade in the Nassau soils. The bedrock is hard in the Bath soil and rippable in the Nassau soil. The Bath soil is a coarse-loamy mixed mesic Typic Fragiochrepts, while the Nassau soil is a loamy-skeletal, mixed, mesic Lithic Dystrochrept. This mapping unit has a 0% hydric soil rating.

- Nassau-Bath-Rock outcrop complex, very steep (NBF). This map unit consists of shallow, somewhat excessively drained Nassau soils; deep well drained Bath soils; and Rock outcrop or bedrock exposures that are intermingled mainly with the Nassau soils. These soils formed in glacial till. The Nassau soil general is on the upper one-half to two-thirds of the slope, and the Bath soil is on the lower art. Rock outcrop is on the hillsides, valleysides, and mountains. Slope ranges from 35 to 65 percent. Most areas are long and narrow in shape and are 10 to 100 acres in size. This unit is made up of about 40 percent Nassau shaly silt loam and very shaly silt loam, 25 percent Bath gravelly silt loam and gravelly loam, 20 percent Rock outcrop, and 15 percent other soils. These sols and the Rock outcrop form such an intricate pattern that they are not shown separately on the soil map. The Bath soil may have a perched water table from 2 to 4 feet below the grade from November to March, with the Nassau soil having a high-water table of greater than 6 feet. Bedrock is 40 inches below grade in the Bath soils, and 10 to 20 inches below grade in the Nassau soils. The bedrock is hard in the Bath soil and rippable in the Nassau soil. The Bath soil is a coarse-loamy mixed mesic Typic Fragiochrepts, while the Nassau soil is a loamy-skeletal, mixed, mesic Lithic Dystrochrept. This mapping unit has a 0% hydric soil rating.

- Volusia channery silt loam, 0 to 8 percent slopes, very stony (VSB). These deep, very stony, somewhat poorly drained soils formed in glacial till. They are on foot slopes and on undulating

hilltops and plains. Slopes are concave and uniform. They range from 3 to 8 percent. Areas are long and narrow or irregular in shape and are 10 to 150 acres in size. This soil has a perched water table at a depth of 0.5 to 1.5 inches below grade from December to May. The depth to bedrock is greater than 60 inches. This soil is a fine-loamy mixed mesic Aeric Fragiaquept. This soil has a hydric soil rating of 5%.

One soil mapped in the Project study area has a hydric soil rating of greater than 0 percent. Volusia channery silt loam has a hydric soil rating of 5%. This rating indicates the percentage of the soils in a map unit that is likely to be hydric. The Palms soil is at the bottom of a steep slope off-site.

3.3 Wetlands and Streams

There are two NYSDEC Wetland mapped in the vicinity of the Project Study Area.

NYSDEC wetland, KE-3, Class 2 is located outside of the Project parcel; the NYSDEC maps this as 65.3-acre wetland.

NYSDEC wetland, KE-7, Class 2 is located outside of the Project parcel; the NYSDEC maps this as 28.9-acre wetland.

The National Wetland Inventory (NWI[4]) shows wetlands and streams mapped adjacent to the site outside of the Project Study Area. The NWI mapping is not a regulatory map but rather a tool for identifying the location of the potential wetlands in the field.

See Figures in Attachment A. The identification of wetlands and delineation of their boundaries was carried out according to the methods in the Corps of Engineers delineation manual (Environmental Laboratory, 1987) and the regional supplement to that manual (USACOE, 2011). The associated wetland delineation report provides a description of all wetlands found on the Project Study Area and includes a copy of the wetland delineation map. A more detailed description of wetlands on the Project Study Area can be found in the delineation report.

3.4 Ecological Communities

Following are descriptions of the plant communities found on the Project Study Area, as defined according to the ecological community classification system used by the New York Natural Heritage Program (Edinger et al. 2014). These descriptions are provided for general information relative to habitat requirements of endangered species.

- Appalachian Oak-hickory forest: The majority of this site is forested and includes rolling topography. Shallow bedrock was encountered throughout the site and the trees are likely old growth with moderate size due to the root restriction. The forest on-site is dominated by mature trees including chestnut oak, red oak, white oak, shagbark hickory, sugar maple, and black cherry. A sparse herbaceous layer included wintergreen, spotted wintergreen, and Christmas fern. This community is throughout the Project Site. See Attachment D, Photo 3, 4, 7, 8, 11, 12, 15 and 16.

[4] USFWS. 2018. National Wetlands Inventory surface waters and wetlands. https://www.fws.gov/wetlands/data/Mapper.htm. Reviewed August 9, 2018.

- Red Maple-hardwood swamp: Several of the wetland systems found on-site can be categorized as red maple hardwood swamps, including Wetland A, B, C, and D. These wetlands lie within depressions and one (Wetland C) is associated with an off-site stream. The wetlands are dominated by red maple, American hornbeam, and sensitive fern. highbush blueberry, and spicebush were the main shrubs identified in these wetlands. See Attachment D, Photos 1, 2, 5, 6, 9, and 13.

- Shrub swamp: One of the wetland systems found on-site can be categorized as a shrub swamp, Wetland E. This wetland lies within a depression. The wetland is dominated by spicebush, highbush blueberry, and sensitive fern. Highbush blueberry and spicebush were the main shrubs identified.

3.5 Natural Communities and Significant Coastal Fish and Wildlife Communities

As stated in Section 2.3, the NYNHP letter response did not indicate a significant natural community in the vicinity of the Project Study Area.

Additionally, there are no Significant Coastal Fish and Wildlife Communities in the vicinity of the Project Study Area.

3.6 Surrounding Landscape

The surrounding land use includes residential and commercial development, solar array, surface mining, and un-developed forest.

4. ANALYSIS OF POTENTIAL OCCURRENCE AND IMPACTS TO SPECIES AND HABITATS

Attachment B contains a Species Conclusion Table which describes the potential for species to be present in the Project Study Area and potential impacts to the species given the proposed project. The contents of that table are summarized below.

Given the nature of this project, the project requires “administrative” approvals under the Federal Energy Regulatory Commission (FERC). Specifically, this includes a Market Based Rate Authority and a Wholesale Generator Status. These are not discretionary reviews for FERC, but we anticipate a requirement of FERC that there is a demonstration of compliance with NEPA regulations and associated federal regulations including Article 7 of the Endangered Species Act.

Indiana Bat: The USFWS identifies both the Indiana bat and the Northern Long-Eared Bat in the range of the Project Study Area. There is a hibernaculum identified by the NYSDEC within 2 miles of the site, but it is not identified as containing Indiana bat. There are no NYSDEC records of summer occurrence for Indiana bat within the Project Study Area. The project will involve the removal of approximately 2.73 acres of trees for the facility, parking lot, and driveway, but no significant habitat removal (i.e., not greater than 10 acres of trees) given the managed nature of the landscape. In order to ensure no take of Indiana bat, any removal of trees greater than 3” dbh will occur between November 1 and March 31 when bats are in hibernacula. Therefore, a determination of Not Likely to Adversely Affect is made for this species under Section 7 of the federal Endangered Species Act.

There is no coordination needed with the NYSDEC, as there are no NYSDEC occurrence records on site.

Northern Long-eared Bat: The northern long-eared bat was identified by the NYSDEC in occurrence records as there is a hibernaculum 2 miles distant from the site. There is no NYSDEC record of summer

occurrences of Indiana or northern long eared bat in the vicinity of the Project Study Area. The USFWS identifies the northern long-eared bat as a winter occurrence in the range of the Project Study Area. The project will not impact the hibernacula, located 2 miles distant from the site. The project will involve the removal of approximately 2.73 acres of trees for the facility, parking lot, and driveway, but no significant habitat removal (i.e., not greater than 10 acres of trees). Any removal of trees greater than 3" dbh will occur between November 1 and March 31, when bats are in hibernacula. A determination of Not Likely to Adversely Affect is identified under Section 7 of the federal Endangered Species Act.

For the NYSDEC, this timeframe is consistent with the NYSDEC Protection of northern long-eared bats guidelines, and no additional review is required.

Bog turtle: This is a species that is state-listed endangered and federally-listed as threatened. The USFWS identifies this species as being in the range of the Project Study Area. The species was not identified in the NYNHP occurrence record data for the Project Study Area. The closest known record for this species is 30 miles to the south. Given the lack of records by the NYSDEC, this is a USFWS issue only. Wetlands on-site were evaluated by a USFWS qualified bog turtle surveyor and did not meet the suitability criteria for Vegetation, Hydrology, or Soils. Given the species habitat requirements and the lack of suitable habitat within wetlands in the Project Study Area, this species is not anticipated to be found in the Project Study Area. A determination of No Effect is identified under Section 7 of the federal Endangered Species Act.

5. LITERATURE CITED

Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded version of Carol Reschke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York Department of Environmental Conservation, Albany, NY.

Environmental Laboratory. 1987. *Corps of Engineers wetlands delineation manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station. (http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf)

Z:\projects\31700-31799\31788.05 Glidepath Ulster East Site\EcoNR\RTE report\2019_03_22_RTE report_31788_05.docx 3/25/2019 11:40 AM

ATTACHMENT A

Background Mapping Review

Figure A-1 Site Location Map

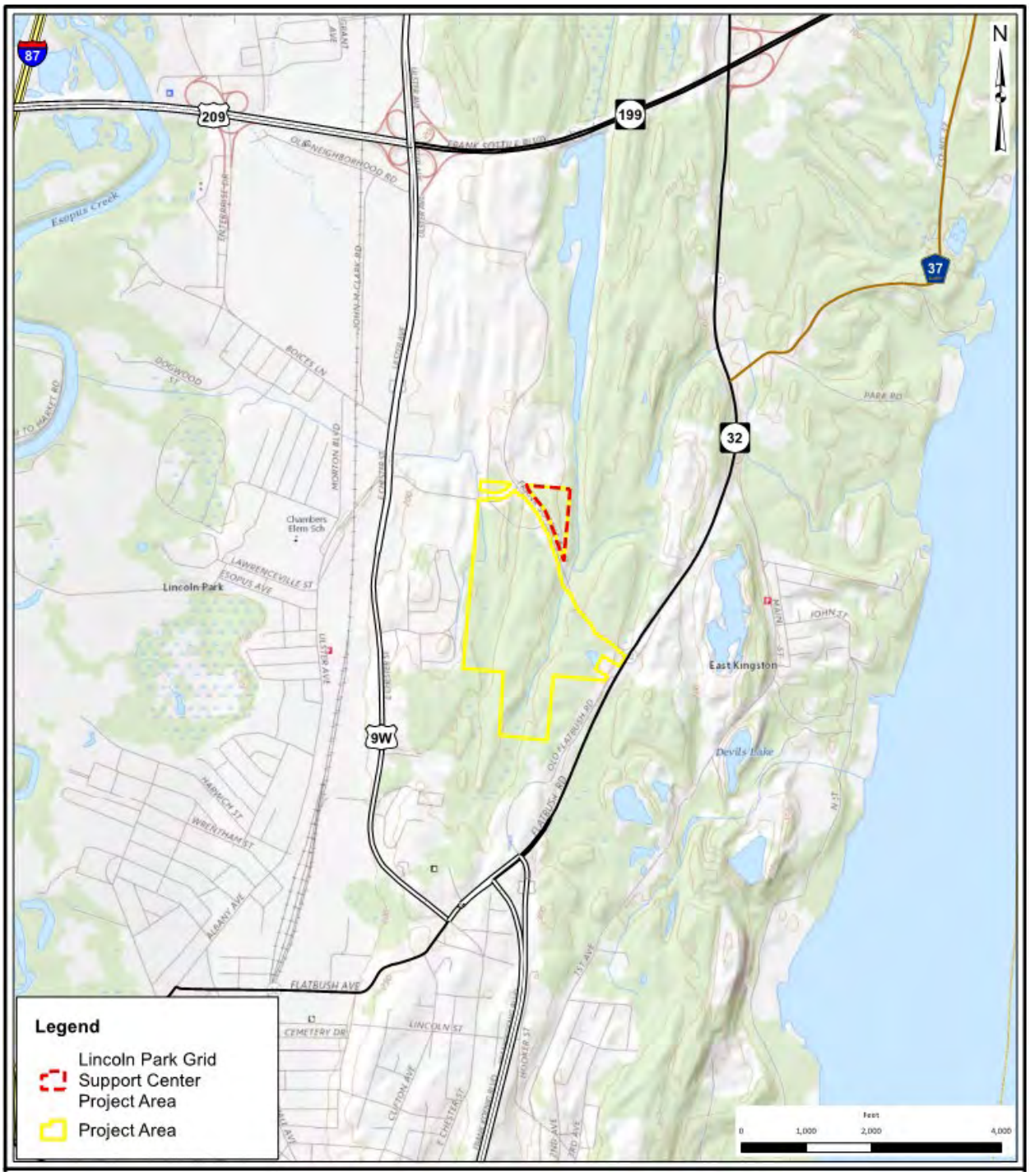

Figure 2 Orthophoto of the Project Area

Figure A-3 NYSDEC Rare, Threatened, and Endangered Species Mapping

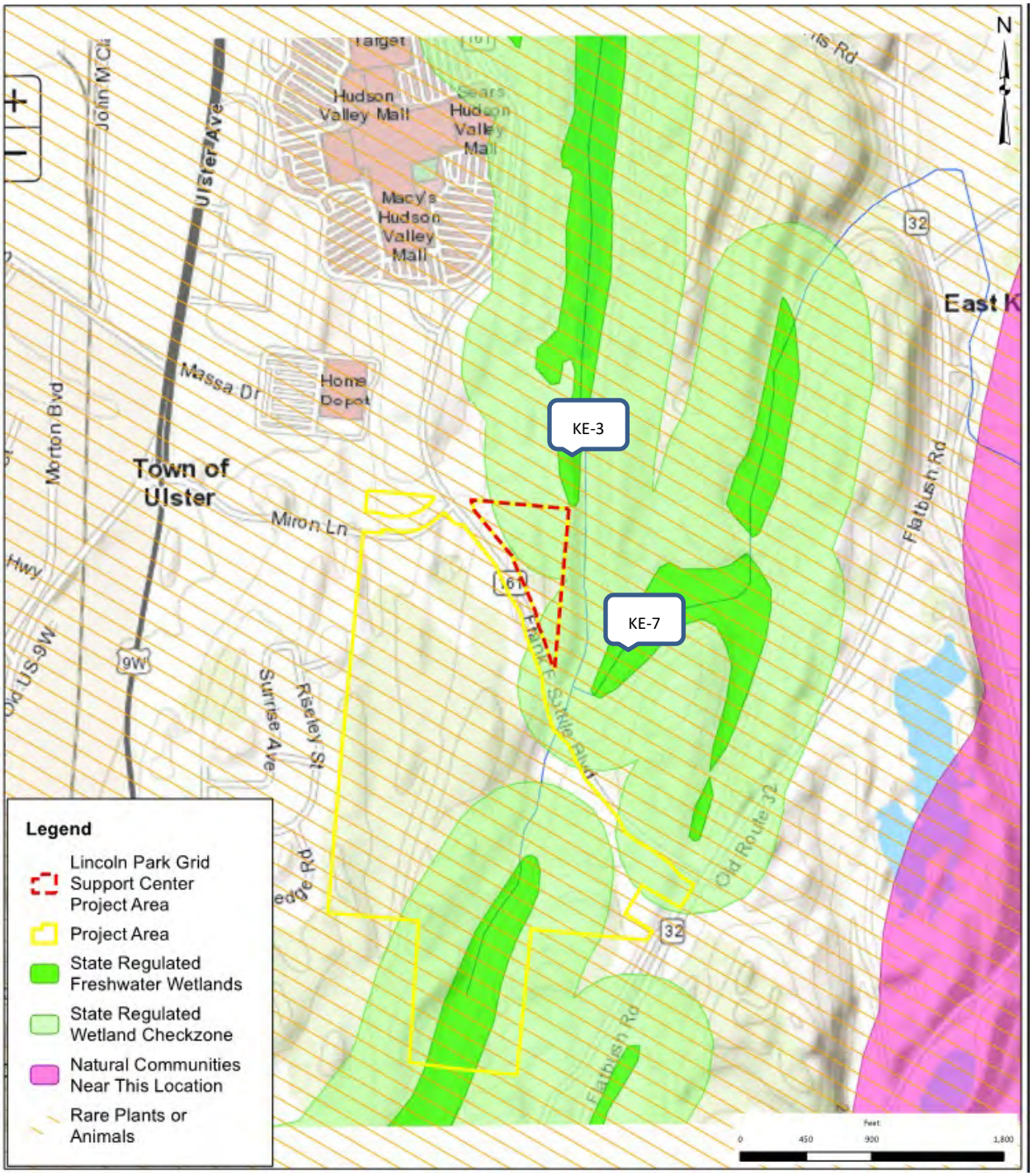

Figure A-4 NYSDEC Wetlands and Watercourse Mapping

Figure A-5 National Wetlands Inventory Mapping

ATTACHMENT B

USFWS Official Species List
Species Conclusion Table

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To:
Consultation Code: 05E1NY00-2019-SLI-1137
Event Code: 05E1NY00-2019-E-03524
Project Name: Glidepath Ulster

February 22, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2019-SLI-1137

Event Code: 05E1NY00-2019-E-03524

Project Name: Glidepath Ulster

Project Type: POWER GENERATION

Project Description: Proposed battery storage site

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.958386686481546N73.98081985023971W

Counties: Ulster, NY

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle *Clemmys muhlenbergii* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Species Conclusions Table – Section 7 Endangered Species Act

Project Name: Lincoln Park Grid Support Center

Date: March 25, 2019

Species Name	Potential Habitat Present?	Species Present?	Piping Plover Critical Habitat Present?	ESA / Eagle Act Determination (REQUIRED) (e.g. no effect, may affect but not likely to adversely affect, likely to adversely affect, no take, may affect but 4(d) rule).	Notes / Documentation Summary (include full rationale in your report)
Bog Turtle (*Clemmys muhlenbergii*)	No	No	No	No Effect	Bog turtle: In the Hudson Housatonic Recovery Unit bog turtles are most often found in fens and wet meadow wetlands that are spring fed and underlain by mucky soils. No fens or wet meadows were found in the Project Study Area that contain suitable hydrology and soils for this species. Five wetlands are found within this Project Study Area, and none of them have suitable Bog turtle habitat characteristics as determined by a qualified bog turtle surveyor. A determination of No Effect is made.
Indiana Bat (*Myotis sodalis*)	No	No	No	Not Likely To Adversely Affect	Indiana bat: On a site like this, which does not possess a cavern or mine that could be used by bats as a hibernaculum, the habitat of concern would be trees that could serve as summertime roosts for maternity colonies. While a bat hibernaculum is 1.5 miles away, we do not believe this hibernacula is known to be used by Indiana bat as there are no state occurrence records for the species on the site.. From mid-spring to early fall, female Indiana bats and their young spend the daytime hours congregated in roost trees, generally sheltering in cavities or under exfoliating bark on dead trees, or under shaggy bark or in deeply furrowed bark of living trees[1]. There are no NYNHP occurrence records on or in the immediate vicinity of the Project Study Area. Approximately 2.73 acres of tree removal will be required. The removal of these trees is not significant from a habitat standpoint. Cutting of trees on the project site will be prohibited between April 1 and October

[1] Whittaker, John O., Jr. and William J. Hamilton, Jr. 1998. Mammals of the Eastern United States. 3rd ed., pp. 103-106. Cornell University Press. Ithaca & London.

					31, as recommended in the Indiana bat protection guidelines[2]. Given these measures, a determination of Not Likely to Adversely Affect is made.
Northern long-eared bat (*Myotis septentrionalis*)	No	No	No	Not Likely to Adversely Affect	Northern long-eared bat: On a site like this, which does not possess a cavern or mine that could be used by bats as a hibernaculum, the habitat of concern would be trees that could serve as summertime roosts for maternity colonies. The nearest hibernaculum is 1.5 miles away. From mid-spring to early fall, female northern long-eared bats and their young spend the daytime hours congregated in roost trees, generally sheltering in cavities or under exfoliating bark on dead trees, or under shaggy bark or in deeply furrowed bark of living trees[3]. There are no NYNHP occurrence records for northern long-eared bat on the site, though a hibernaculum is identified to be within 1.5 miles of the Project Study Area. No summer occurrence records were reported for this town. Approximately 2.73 acres of trees will be removed. The removal of these trees is not significant from a habitat standpoint. To avoid Take for this species, cutting of trees on the project site will be prohibited between April 1 and October 31, as recommended in bat protection guidelines[4]. Given these measures, a determination of Not Likely to Adversely Affect is made. Tree removal is in compliance with the NYSDEC Protection of Northern Long Eared Bat guidelines.

[2] Range-wide Indiana Bat Protection and Enhancement Plan Guidelines. 2009. U.S. Fish and Wildlife Service, Interstate Mining Compact Commission, and U.S. Dept. of the Interior, Office of Surface Mining. p. 9. Available on the internet at http://www.fws.gov/frankfort/pdf/inbatpepguidelines.pdf.

[3] Whittaker, John O., Jr. and William J. Hamilton, Jr. 1998. Mammals of the Eastern United States. 3rd ed., pp. 103-106. Cornell University Press. Ithaca & London.

[4] Range-wide Indiana Bat Protection and Enhancement Plan Guidelines. 2009. U.S. Fish and Wildlife Service, Interstate Mining Compact Commission, and U.S. Dept. of the Interior, Office of Surface Mining. p. 9. Available on the internet at http://www.fws.gov/frankfort/pdf/inbatpepguidelines.pdf.

ATTACHMENT C

NYNHP List

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

March 19, 2019

David MacDougall
The Chazen Companies
547 River Street
Troy, NY 12180

Re: Lincoln Park Grid Support Center
County: Ulster Town/City: Ulster

Dear Mr. MacDougall:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

Within two miles of the project site is a documented hibernaculum of **Northern long-eared bat** (*Myotis septentrionalis*, state and federally listed as Threatened). The bats may travel five miles or more from documented locations. The main impact of concern for bats is the cutting or removal of potential roost trees. For information about any permit considerations for your project, please contact the NYS DEC Region 3 Office, Division of Environmental Permits at dep.r3@dec.ny.gov, (845) 256-3054.

For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

For information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, as described above.

Sincerely,

Heidi Krahling
Environmental Review Specialist
New York Natural Heritage Program

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ATTACHMENT D

Photographs of the Project Site

Photo #1
Description: View north of Wetland A. This wetland contains forested and ponded habitat.

Photo #2
Description: View east of Wetland A.

Photo #3
Description: View south of the upland forest adjacent to Wetland A.

Photo #4
Description: View west of the upland forest adjacent to Wetland A.

Photo #5
Description: View north of Wetland B a forested wetland.

Photo #6
Description: View south of Wetland B.

Photo #7
Description: View west of the upland forest adjacent to Wetland B.

a

Photo #8
Description: View north of the upland forest adjacent to Wetland B.

Photo #9
Description: View south of a portion of Wetland C.

a

Photo #10
Description: View east of the off-site stream that is partially fed by Wetland C.

Photo #11
Description: View east of the upland forest adjacent to Wetland C.

a

Photo #12
Description: View west of the upland forest adjacent to Wetland C.

Photo #13
Description: View north of Wetland D a forested wetland between rock outcrops.

a

Photo #14
Description: View south of the southern tip of Wetland D.

Photo #15
Description: View north of the forested upland between Wetlands D and E.

a

Photo #16
Description: View south of the forested upland between Wetlands D and E.

ATTACHMENT F
Phase 1A and 1B Report

HARTGEN
archeological associates inc

PHASE I ARCHEOLOGICAL INVESTIGATION

Lincoln Park Grid Support Center

Frank Sottile Boulevard
Town of Ulster
Ulster County, New York

HAA # 5195-31

Submitted to:
The Chazen Companies
21 Fox Street
Poughkeepsie, New York 12601

Prepared by:
Hartgen Archeological Associates, Inc.

1744 Washington Avenue Ext.
Rensselaer, New York 12144
p +1 518 283 0534
f +1 518 283 6276
e hartgen@hartgen.com

www.hartgen.com

An ACRA Member Firm
www.acra-crm.org

December 2017

MANAGEMENT SUMMARY

SHPO Project Review Number: *n/a*
Involved State and Federal Agencies: *New York State Department of Environmental Conservation (DEC)*
Phase of Survey: *Phase I*

LOCATION INFORMATION

Municipality: *Town of Ulster*
County: *Ulster*

SURVEY AREA

Length: *850 ft*
Width: *200 ft*
Acres: *5.8 acres*

ARCHEOLOGICAL SURVEY OVERVIEW

Number and Interval of Shovel Tests: *Eight-seven (87) shovel tests placed at 15 merter (50 ft) intervals*
Number and Size of Units: *n/a*
Width of Plowed Strips: *n/a*
Surface Survey Transect Interval: *n/a*

RESULTS OF ARCHEOLOGICAL SURVEY

Number and Name of Precontact Sites Identified: *None*
Number and Name of Historic Sites Identified: *None*
Number and Name of Sites Recommended for Phase II or Avoidance: *None*

RECOMMENDATIONS

No further archeological investigation is recommended.

Report Authors: *Amy Wilson, Andre Krievs and Matthew Kirk*
Date of Report: *December 2017*

ABSTRACT

A Phase I archeological investigation was completed for the proposed Lincoln Park Grid Support Center located in the Town of Ulster, Ulster County, New York. The Phase I archeological field investigation included a surface reconnaissance to search for precontact quarry sites and rockshelters followed by the excavation of 87 shovel tests. No precontact quarry sites or rocksheters were identified and no precontact or historic cultural resources were recovered from the 87 shovel tests. No further archeological investigation is recommended.

TABLE *of* CONTENTS

Map List

Photograph List

Table List

PHASE I CULTURAL RESOURCES SURVEY

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase I archeological investigation for the proposed Glide Path Ulster Energy Storage System (Project) located in the Town of Ulster, Ulster County, New York. The Project requires approvals by the New York State Department of Environmental Conservation (DEC) and the Town of Ulster Planning Board.

This investigation was conducted to comply with Section 14.09 of the State Historic Preservation Act and will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The investigation was conducted according to the New York Archaeological Council's *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections* (1994), which are endorsed by OPRHP. This report has been prepared according to OPRHP's *State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements* (2005).

2 Project Information

2.1 Project Location

The project area is located south of Frank Sottile Boulevard in the Town of Ulster, Ulster County, New York.

2.2 Description of the Project

The project will include the installation of an access road and the construction of an energy storage facility.

2.3 Description of the Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the property that will be directly altered by the proposed undertaking. The APE encompasses approximately 5.8 acres. For the purpose of this study, the Project Area and APE are considered to be synonymous and the terms are used interchangeably.

3 Environmental Background

The environment of an area is significant for determining the sensitivity of the Project Area for archeological resources. Precontact and historic groups often favored level, well-drained areas near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the Project Area that are more likely to contain archeological resources. In addition, bedrock formations may contain chert or other resources that may have been quarried by precontact groups. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

3.1 Present Land Use and Current Conditions

A site visit was conducted by Andre Krievs on November 28, 2017 to observe and photograph existing conditions within the Project Area. The access road begins at Frank Sottile Boulevard and continues south along the top of a berm-like ridge (Map 2; Photo 1). The access road continues up a steep slope to a terrace, the proposed energy storage facility footprint (Map 2; Photo 2). The access road and energy storage facility footprints are wooded, comprised of red and white oak, maple, birch, beech, and pine.

3.2 Soils

Soil surveys provide a general characterization of the types and depth of soils that are found in an area. This information is an important factor in determining the appropriate methodology if and when a field study is recommended. According to the soil map for Ulster County, the project area contains mostly Bath-Nassau

complex and Bath-Nassau rock outcrop soils (United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) 2007).

Table 1. Soils in Project Area

Symbol	Name	Depth	Textures	Slope	Drainage	Landform
NFB	Bath-Nassau Complex	0-28 cm (0-11 in) 28-38 cm (11-15 in) 38-64 cm (15-25 in) 64-74 cm (25-29 in) 74-132 cm (2952 in) 132-152 cm (52-60 in)	Si lo Si lo Lo Lo Si lo Si lo	8-25%	Well drained	Glaciated uplands
NBF	Nassau-Bath rock outcrop	0-8 cm (0-3 in) 0-43 cm (3-17 in) 43 cm (17 in)+	Si lo Si lo Folded shale	8-25 %	Well drained	Bedrock controlled glacially modified uplands

Key: Texture: Co-Coarse, Fi-Fine, Gv-Gravelly, Lo-Loam, Sa-Sand, Si-Silt, Vy-Very

3.3 Bedrock Geology

According to the Geologic Map of New York, the project area is located at the intersection of two geologic subgroups, the Trenton Group and the Undifferentiated Lower Devonian and Silurian rocks. The Trenton Group consists of Austin Glen Formation graywacke and shale. The Lower Devonian and Silurian rocks include Port Ewen and Manlius limestones, Rondout dolostone, Binnewater sandstone, and High Falls shale (Fisher 1970).

3.4 Physiography and Hydrology

Steeply sloped areas are considered largely unsuitable for human occupation. As such, the standards for archeological fieldwork in New York State generally exclude areas with a slope in excess of 12% from archeological testing (NYAC 1994). Exceptions to this rule include steep areas with bedrock outcrops, overhangs, and large boulders that may have been used by precontact people as quarries or rock-shelters. Such areas may still warrant a systematic field examination.

4 Documentary Research

Hartgen conducted research using the New York State Cultural Resource Information System (CRIS), which is maintained by the New York SHPO and the Division for Historic Preservation DHP within OPRHP. CRIS contains a comprehensive inventory of archeological sites, State and National Register (NR) properties, properties determined eligible for the NR (NRE), and previous cultural resource surveys.

4.1 Archeological Sites

An examination of CRIS identified 33 reported archeological sites within one mile (1.6 km) of the Project (Table 2). Previously reported archeological sites provide an overview of both the types of sites that may be present in the Project Area and relation of sites throughout the surrounding region. The presence of few reported sites, however, may result from a lack of previous systematic survey and does not necessarily indicate a decreased archeological sensitivity within the Project Area.

Table 2. Archeological sites within one mile (1.6 km) of the Project

OPRHP Site No.	NYSM Site No.	Site Identifier	Description	Proximity to Project Area
11118.000008	-	Brigham Brickworks Site	Late 19th century brickworks	4,560 feet east
11118.000021	-	Ulster Road Area 1 Archeological Site	Precontact camp	4,275 feet north

OPRHP Site No.	NYSM Site No.	Site Identifier	Description	Proximity to Project Area
11118.000022	-	Ulster Road Area 2 Archeological Site	Precontact camp	500 feet east
11118.000023	-	Ulster Road Area 3 Archeological Site	Precontact camp	4,220 feet north
11118.000024	-	Ulster Road Area 4 Archeological Site	Precontact camp	3,725 feet north
11118.000025	-	Zaremba Quarry Archeological Site (Locus 1)	Precontact quarry/workshop	915 feet west
11118.000026	-	Zaremba Quarry Archeological Site (Locus 2)	Precontact quarry/workshop	470 feet west
11118.000042	-	Petalas Blades Multicomponent Site	Precontact workshop	2,600 feet northwest
11118.000048	-	Chambers Senior Housing Site	Late Archaic/Transitional camp	3,890 feet west
11118.000051	-	Manor Site	Late Archaic camp	500 feet south
11118.000052	-	Manor Quarry Site	Precontact quarry/workshop	500 feet south
11118.000055	-	CA Shultz Brickyard Complex	19th century brickworks	3,850 feet east
11118.000056	-	Smith Farmstead Site	19th and 20th century homestead	2,990 feet east
11118.000057	-	William Terry Icehouse Site	18th -20th century icehouse complex	290 feet east
11118.000059	-	Schultz Brick Company Bulkhead-surrounding barge slip	Late 19th century barge slip and bulkhead	3,950 feet east
11118.000064	-	Callanan Rockshelter prehistoric site	Woodland rockshelter	3,270 feet northeast
11118.000065	-	Callanan Historic Limestone Quarry	Late 19th -20th century limestone quarry pit	3,050 feet northeast
11118.000066	-	Historic Limestone Quarry Tramway	Late 19th -20th century quarry tramway	3,480 feet northeast
11118.000067	-	Historic Limestone Quarry Foundation	Late 19th -20th century foundation	3,525 feet northeast
11118.000068	-	Kalkberg Chert quarry	Precontact quarry/workshop	3,330 feet northeast
11118.000069	-	Historic Limestone Quarry Pits	Late 19th to early 20th century limestone quarry pit	1,815 feet northeast
11118.000077	-	Callanan Ridge Quarry/Chert outcrop	Precontact quarry/workshop	1,000 feet east
11140.000016	-	Tammany St. Site	Late Archaic camp	2,960 feet south
11140.001577	-	Kingston Landing Prehistoric Site	Early to Middle Archaic camp	3,710 feet southeast
11140.001579	-	Dwyer Brickyard & Icehouse Complex site	19th and 20th century brickyard and icehouse complex	4,770 feet southeast
11140.001580	-	Staples Brickyard Complex site	Late 19th -20th century brickyard complex	4,780 feet east
11140.001581	-	C. A. Shultz Brickyard Complex site	Late 19th -20th century brickyard complex	4,200 feet east
11140.001582	-	Terry Farmstead site	19th to 20th century farmstead	4,625 feet southeast
11140.001585	-	Lost Lake Mine site	19th century limestone mine	4,220 feet southeast
11140.001589	-	Sunken Wooden Barge #13	20th century barge remains	4,090 feet east

OPRHP Site No.	NYSM Site No.	Site Identifier	Description	Proximity to Project Area
11140.001591	-	Wooden Barge Cluster # 2 (5 barges)	Cluster of five 20th century barges	4,650 feet southeast
11140.001596	-	Colony Liquors Precontact Site	Precontact camp/workshop	3,290 feet southwest
-	7668	Kingston: Kingston #1	Woodland village site	500 feet south

4.2 Historic Properties

An examination of CRIS identified no NR properties, no NRE properties, no properties previously determined to be ineligible, nor any properties of undetermined status within the Project Area.

4.3 Previous Surveys

A review of CRIS identified seven previous surveys within the immediate vicinity of the Project (Table 3).

Table 3 Relevant previous surveys within or adjacent to the Project

Project/Phase	Summary	Citation
Proposed Road (Route 9W to Route 32), SEQR Parts 1 & 3; Stage II; Phase III	Three Late Archaic/ Transitional period camp/workshops identified north of the project area within the footprint of Frank Sottile Blvd.	(Hartgen Archeological Associates 1993a, b, 1994)
Ulster Manor Residential Development, Phase I; Phase III	Late Archaic/Transitional/Woodland period occupations located south of the project area. Lithic assemblage indicates habitation and workshop activities	(Hartgen Archeological Associates 2004, 2009)
The Landing at Kingston and Ulster, Phase I	15 shovel tests excavated across 8-acre area. Possibility of buried cultural deposits. No further investigation recommended.	(Columbia Heritage 2005)
Proposed Callanan Industries Mine Advancement, Phase I and Phase II	Late 19th early to mid-20th century homestead located northeast of the project area. No further investigation recommended	(Columbia Heritage 2008)
Callanan East Kingston Quarry, Phase II; Phase IB & Phase II; Phase II	Precontact rockshelter and chert quarry. 19th century limestone quarry, foundation remains and tramway located northeast of the project area. Avoidance or further data retrieval recommended for precontact rockshelter site.	(City/Scape Cultural Resource Consultants 2009, 2010a, b)

The archeological surveys conducted in the general vicinity of the project area identified several precontact sites dating from the Late Archaic/Transitional/ and Woodland periods (3,000 B.C. to A.D. 1000). They include rockshelters, quarry/workshops, and habitation sites.

5 Historical Map Review

To trace the development of the project, a review of historical maps was conducted. The maps include 19th century landowner maps and 20th-century topographic maps. The maps are geo-referenced and the project area has been superimposed on each map. The maps are discussed in chronological order.

The earliest landowner maps examined are the 1853 Tillison and Brink and the 1858 French *Map of Ulster County, New York* and the 1891 Beers *Atlas of the Hudson River Valley From New York to Troy.* The maps show roads east and west of the project area. No structures are indicate within or adjacent to the project area.

The examined 20th –century topographic maps include the 1939 USGS *Rhinebeck 15' Topographic Quadrangle* and the 1963 and 1980 *Kingston East 7.5' Topographic Quadrangles.* Roads are shown east and west of the project area. No structures are indicated within or adjacent to the project area.

5.1 Map-Documented and Existing Structures

Each past or current structure within the Project Area is assigned a unique structure number. Map-documented structures—those structures that are depicted on one or more maps—are distinguished using the abbreviation "MDS" after the structure number (e.g. Structure 3 (MDS). No structures are indicated within or adjacent to the project area.

6 Archeological Sensitivity Assessment

The New York Archaeological Council provides the following description of archeological sensitivity:

> Archaeologically sensitive areas contain one or more variables that make them likely locations for evidence of past human activities. Sensitive areas can include places near known prehistoric sites that share the same valley or that occupy a similar landform (e.g., terrace above a river), areas where historic maps or photographs show that a building once stood but is now gone as well as the areas within the former yards around such structures, an environmental setting similar to settings that tend to contain cultural resources, and locations where Native Americans and published sources note sacred places, such as cemeteries or spots of spiritual importance (NYAC 1994:9).

6.1 Precontact Archeological Sensitivity

The precontact sensitivity of an area is based on proximity to previously documented precontact archeological sites, known precontact resources (e.g. chert outcrops), and physiographic characteristics such as topography and drainage. Generally, areas in the vicinity of streams and wetlands are considered to have elevated sensitivity for sites associated with Native American use or occupation because they presented potential food and water sources as well as transportation corridors.

The site file search identified seventeen (17) precontact sites within a mile of the project area. Two of the sites are located north and south of the project area. The proximity to a wetland and the presence of several reported sites in the area, the project area is considered as having a high sensitivity for yielding precontact cultural resources.

6.2 Historic Archeological Sensitivity

The historic sensitivity of an area is based primarily on proximity to previously documented historic archeological sites, map-documented structures, or other documented historical activities (e.g. battlefields).

No map documented structures were indicated within or adjacent to the project area. Although several historic sites were identified within a mile of the project area, most are located east adjacent to the Hudson River. The project area is considered as having a low sensitivity for yielding cultural resources dating from the 19th century or earlier.

7 Archeological Potential

Archeological potential is the likelihood of locating intact archeological remains within an area. The consideration of archeological potential takes into account subsequent uses of an area and the impact those uses would likely have on archeological remains. The project has experienced little or no impacts resulting from historic development. The proximity of a wetland combined with the presence of several recorded precontact sites in the area indicates a moderate to high potential of yielding precontact cultural resources. No map documented structures were indicated within or adjacent to the project area. The Project is considered as having a low potential for yielded significant historic cultural deposits dating from the 19th century or earlier.

8 Archeological Survey

The field investigation included a surface reconnaissance of the landscape to search for the presence of precontact rockshelters and quarry sites followed by the excavation of shovel tests across the level to moderately sloping sections of the proposed access road and energy storage facility footprint.

8.1 Methodology

8.1.1 Surface Reconnaissance

The exposed bedrock was examined for chert outcrops or tailing deposits, an indication of possible Native American chert quarrying activities. The bedrock outcrops were examined for possible rockshelters, large bedrock outcrops that may have provided shelter for the regions precontact Native American inhabitants.

8.1.2 Shovel Testing

Shovel tests were excavated at a standard interval of 15 meters (50 ft). Each shovel test was 40 centimeters (16 in) in diameter. All excavated soil was passed through 0.25-inch hardware mesh and examined for both precontact (Native American) and historic artifacts. The stratigraphy of each test was recorded including the depth, Munsell color, soil description, and artifact content (Munsell Color 2000). The location of each shovel test was plotted on the project map. Test excavations were photographed.

8.1.3 Artifacts and Laboratory

As general procedure, all precontact (Native American) cultural material identified during the fieldwork are collected. Significant historic artifacts such as glass, ceramics, food remains, hardware, and miscellaneous items are collected. Coal, ash, cinder, brick, and modern materials are noted. Any artifacts collected are placed in paper or plastic bags labeled by provenience and inventoried in a bag list. Bags are numbered in the field and transported to the Hartgen laboratory in the Town of North Greenbush, Rensselaer County, New York, for processing.

Shovel test records and other provenience information were entered into a Microsoft *Access* database (Appendix 1). Artifacts were cleaned and cataloged. Cataloging entailed entering artifact provenience information, counts, weights, and descriptive information into the database (Appendix 2).

8.2 Results

The Phase IB archeological field reconnaissance was conducted from November 28 to December 1, 2017. The field crew consisted of David Wendell, Joseph Rynasko, and Eli Smith, under the direction of Andre Krievs. Matthew Kirk, RPA, was the Principal Investigator.

The exposed bedrock was examined for chert outcrops or tailing deposits and none were found. The visible bedrock outcrops within the project area appear to be a mixture of greywacke and shale, and are not chert bearing (Map 2; Photo 3). No large bedrock outcrops that may have provided shelter for the regions precontact Native American inhabitants were encountered during the surface reconnaissance.

The subsurface field investigation included the excavation of eight-seven (87) shovel tests across the level to moderately sloping and dry section of the project area. Tests 1-22 were excavated along the proposed access road easement (Map 2; Photos 1 and 4) and Tests 23-77 were excavated within the limits of the proposed energy storage facility footprint (Map 2; Photos 2 and 5). Tests 78-87 were excavated across the proposed storm-water basin footprint (Map 2; Photo 6).

The soils encountered along the proposed access road varied slightly in texture, color and depth to subsoil. Typically, the Level 1 surface soil consisted of dark grayish brown to brown silt loam ranging from 5 to 17 centimeters (2 to 7 in) in depth underlain by a brownish yellow silty sand to silty clay subsoil with cobbles and gravel that continued to depths greater than 44 centimeters (17 in) below the surface. The soils encountered

across the energy storage facility footprint and the proposed storm-water basin consisted of a very dark grayish brown to brown silt loam with gravel and cobbles ranging from 10 to 23 centimeters (4 to 9 in) in depth underlain by a yellowish brown to brownish yellow silty sand to silty clay subsoil that continued to depths greater than 46 centimeters (18 in) below the surface. No precontact or historic cultural resources were recovered from the 87 shovel tests.

9 Recommendations

The Phase I archeological field investigation included a surface reconnaissance to search for precontact quarry sites and rockshelters followed by the excavation of 87 shovel tests. No precontact quarry sites or rocksheters were identified and no precontact or historic cultural resources were recovered from the 87 shovel tests. No further archeological investigation is recommended.

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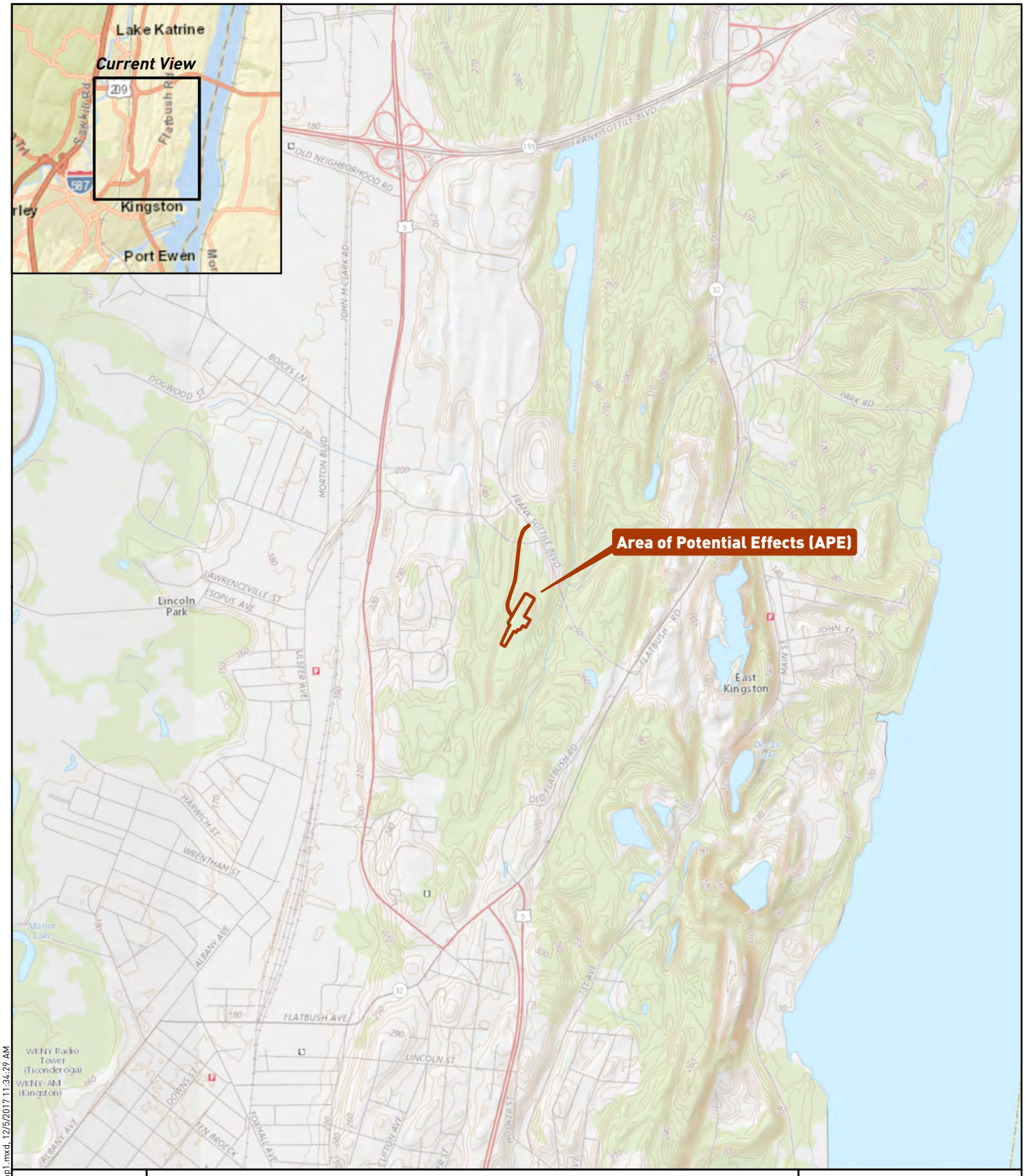
Maps



N

1,000 0 1,000 2,000 Feet

300 0 300 600 Meters

Note: Contour interval is 10 feet.

Project Location
(ESRI 2017; USGS 2015)

HARTGEN archeological associates inc

Map 1

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75 0 75 150 Feet
21 0 21 42 Meters

- Shovel Test (ST)
- Photo Angle
- Structure
- Driveway
- Stormwater Retention Pond
- Wetland
- Property Line
- Major Contour
- Minor Contour
- Area of Potential Effects (APE)

Project Map
(Hartgen 2017; Chazen 2017; ESRI 2017)

HARTGEN archeological associates inc

Map 2

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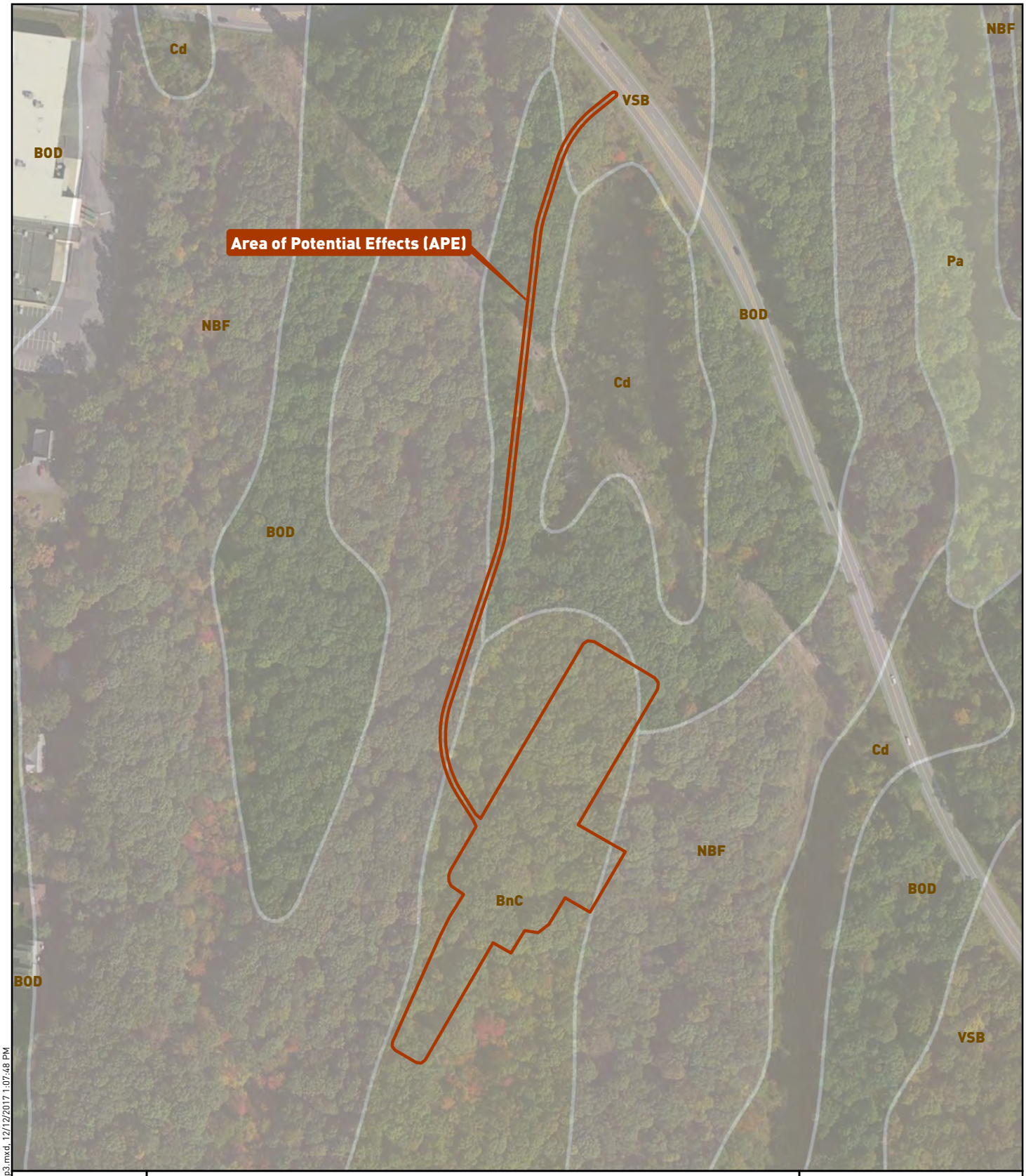

125 0 125 250 Feet

39 0 39 78 Meters

Soil Map
(USDA NRCS 2006, ESRI 2017)

HARTGEN archeological associates inc

Map 3

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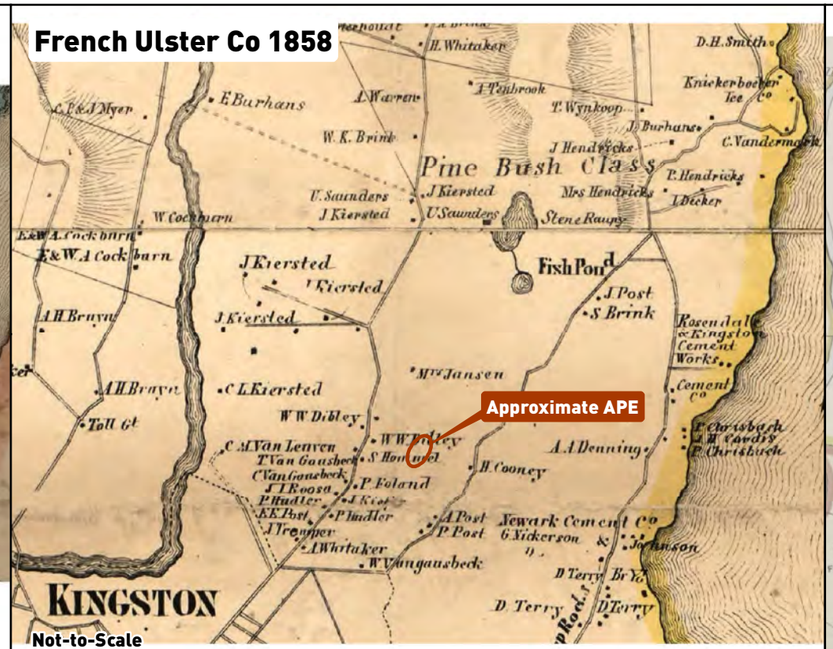
Tillson and Brink 1853

Not-to-Scale

French Ulster Co 1858



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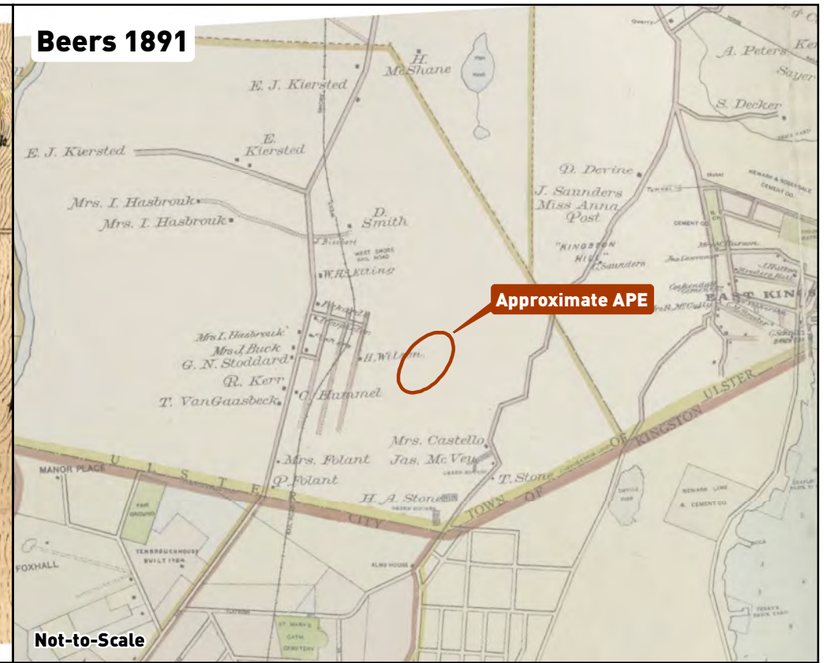
Beers 1891



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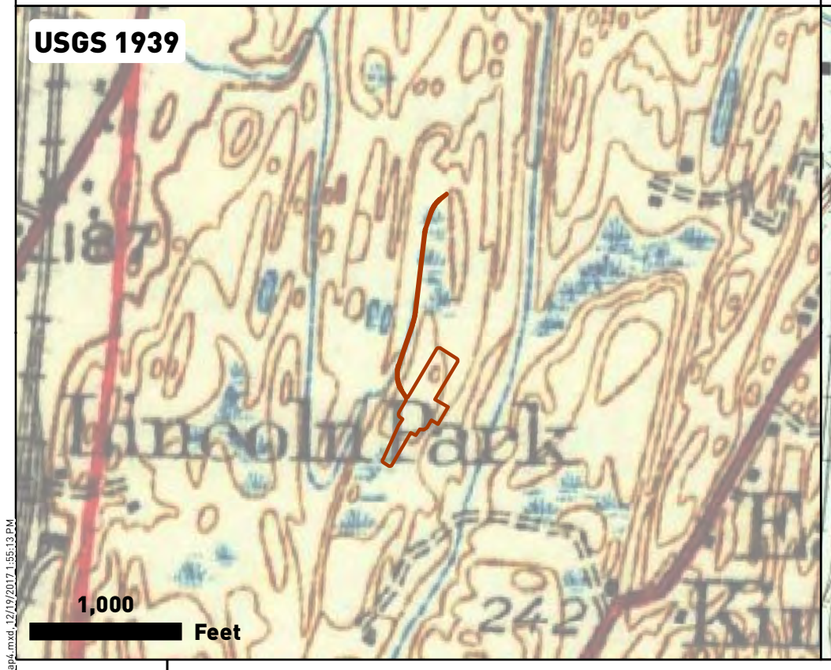
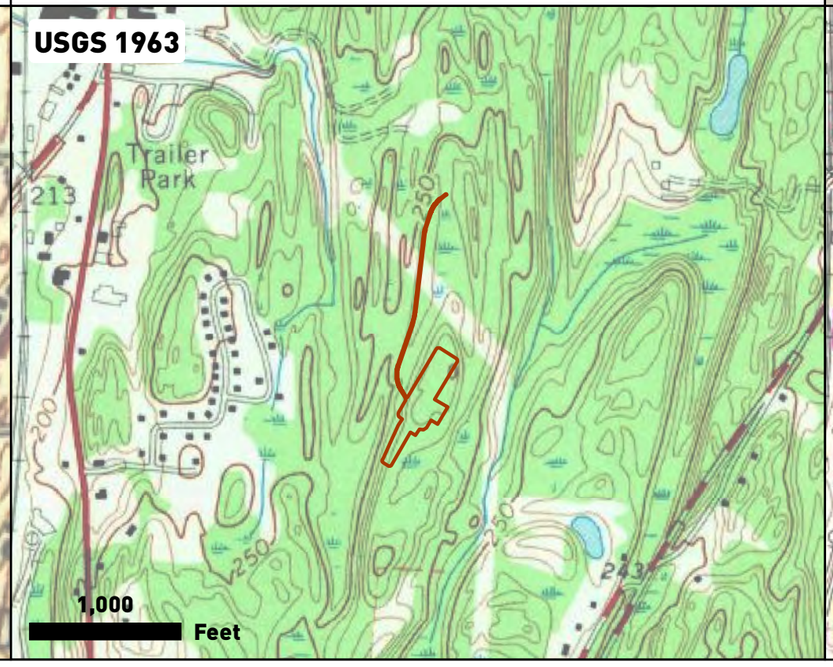
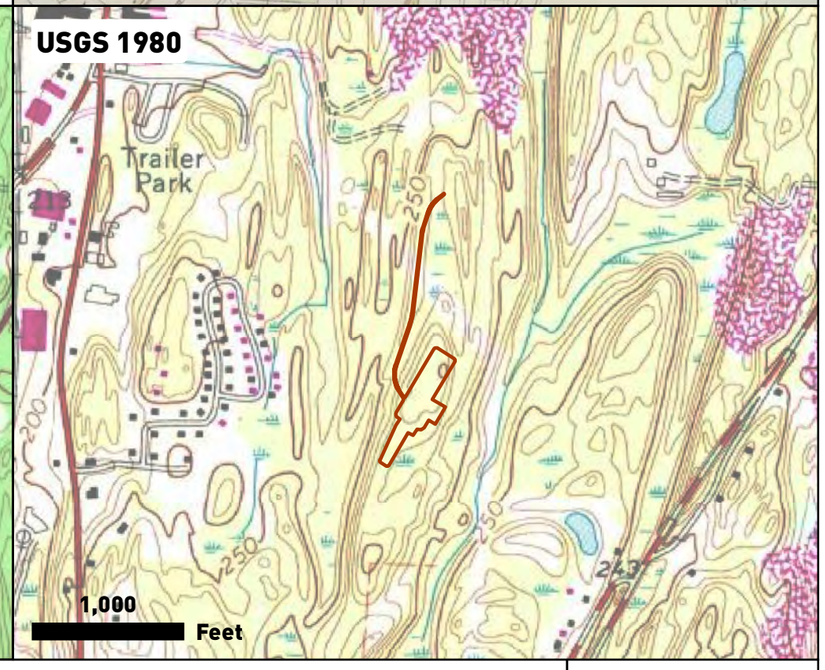
USGS 1939



USGS 1963



USGS 1980



Legend

Area of Potential Effects (APE)

HARTGEN archeological associates inc

Historical Maps 1853-1980

Map 4

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Photographs

Photo 1. View south of the northern most end of the proposed access road

Photo 2. View northeast of the south central portion of the energy storage facility footprint.

Photo 3. View east of a bedrock outcrop located near the western edge of the proposed energy storage facility footprint. The formation is not chert bearing.

Photo 4. View northeast of the general location of Tests 1-22 excavated along the proposed access road.

Photo 5. View north of the general location of Tests 23-77 excavated across the proposed energy storage facility footprint.

Photo 6. View south of the general location of Test 78-87 excavated across the proposed storm-water basin footprint.

Appendix 1: Shovel Test Records

519531: Phase IB Archeological Investigation, Glide Path Ulster

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
1	15	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	26	2	clay	gravel, cobbles	10yr 5/3	brown	
	45	3	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
2	15	1	silt clay		10yr 5/3	brown	
	42	2	sand	cobbles	10yr 6/4	light yellowish brown	impasse (rocks)
3	5	1	silt loam		10yr 3/2	very dark grayish brown	
	24	2	silt sand		10yr 5/8	yellowish brown	
	42	3	silt clay		10yr 5/6	yellowish brown	subsoil
4	12	1	silt loam	gravel	10yr 4/2	dark grayish brown	
	21	2	silt clay	gravel	10yr 5/3	brown	
	39	3	silt clay	gravel	10yr 6/6	brownish yellow	subsoil
5	8	1	silt loam		10yr 3/1	very dark gray	
	38	2	silt sand		10yr 6/6	brownish yellow	subsoil
6	19	1	sand clay		10yr 8/6	yellow	
	41	2	sand		10yr 6/8	brownish yellow	impasse (rocks)
7	11	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	17	2	silt clay	gravel, cobbles	10yr 5/3	brown	
	38	3	silt clay		10yr 6/6	brownish yellow	subsoil
8	13	1	silt loam		10yr 3/2	very dark grayish brown	
	32	2	silt sand		10yr 6/6	brownish yellow	subsoil
9	10	1	silt loam	gravel	10yr 4/2	dark grayish brown	
	22	2	silt clay	gravel, cobbles, roots	10yr 5/3	brown	
	48	3	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
10	11	1	silt clay		10yr 4/3	brown	
	31	2	silt sand		10yr 6/8	brownish yellow	depth

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
11	15	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	25	2	silt clay	gravel, cobbles	10yr 5/3	brown	
	42	3	silt clay	gravel	10yr 6/6	brownish yellow	subsoil
12	8	1	silt loam		10yr 4/2	dark grayish brown	
	35	2	silt sand		10yr 5/6	yellowish brown	subsoil
13	11	1	silt loam	roots	10yr 3/3	dark brown	
	39	2	sand		10yr 6/4	light yellowish brown	depth
14	13	1	loam	gravel, roots	10yr 4/2	dark grayish brown	
	48	2	silt sand	cobbles	10yr 5/6	yellowish brown	subsoil
15	10	1	silt loam		10yr 3/2	very dark grayish brown	
	34	2	silt sand		10yr 5/6	yellowish brown	subsoil
16	10	1	silt clay		10yr 4/6	dark yellowish brown	
	42	2	sand		10yr 7/8	yellow	depth
17	13	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	20	2	silt clay	gravel, cobbles	10yr 5/3	brown	
	37	3	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
18	15	1	silt loam	gravel, cobbles	10yr 4/3	brown	
	35	2	silt	cobbles	10yr 6/8	brownish yellow	subsoil
19	7	1	silt loam		10yr 4/2	dark grayish brown	
	23	2	silt sand		10yr 6/6	brownish yellow	impasse (rocks)
20	17	1	silt loam	roots	10yr 4/2	dark grayish brown	
	34	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
21	9	1	silt		10yr 4/2	dark grayish brown	
	24	2	sand		10yr 7/3	very pale brown	impasse (roots)
22	17	1	silt	gravel, cobbles	10yr 4/3	brown	
	36	2	silt	gravel, cobbles	10yr 5/8	yellowish brown	subsoil

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
23	14	1	silt loam		10yr 3/2	very dark grayish brown	
	33	2	silt sand		10yr 5/6	yellowish brown	subsoil
24	15	1	silt loam		10yr 2/2	very dark brown	
	36	2	silt sand		10yr 5/6	yellowish brown	subsoil
25	13	1	silt loam		10yr 3/2	very dark grayish brown	
	35	2	silt sand		10yr 5/6	yellowish brown	subsoil
26	15	1	silt loam		10yr 3/2	very dark grayish brown	
	47	2	silt sand		10yr 5/6	yellowish brown	subsoil
27	11	1	silt loam		10yr 3/2	very dark grayish brown	
	45	2	silt sand		10yr 5/6	yellowish brown	subsoil
28	14	1	silt loam		10yr 2/2	very dark brown	
	39	2	silt sand		10yr 5/6	yellowish brown	subsoil
29	9	1	silt loam		10yr 3/2	very dark grayish brown	
	37	2	silt sand		10yr 5/6	yellowish brown	subsoil
30	13	1	silt loam		10yr 3/2	very dark grayish brown	
	39	2	silt sand		10yr 5/6	yellowish brown	subsoil
31	13	1	silt	gravel, cobbles	10yr 4/3	brown	
	39	2	silt	gravel, cobbles	10yr 5/8	yellowish brown	subsoil
32	15	1	silt	cobbles	10yr 4/3	brown	
	40	2	silt	gravel, cobbles	10yr 5/8	yellowish brown	subsoil
33	14	1	silt	gravel	10yr 4/3	brown	
	38	2	silt	gravel	10yr 5/8	yellowish brown	subsoil
34	10	1	silt	gravel, cobbles	10yr 4/3	brown	
	38	2	silt	gravel, cobbles	10yr 5/8	yellowish brown	subsoil

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
35	15	1	silt	cobbles	10yr 4/3	brown	
	40	2	silt		10yr 5/8	yellowish brown	subsoil
36	15	1	silt	cobbles	10yr 4/3	brown	
	40	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
37	16	1	silt	cobbles	10yr 4/3	brown	
	38	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
38	16	1	silt	cobbles	10yr 4/3	brown	
	38	2	silt		10yr 5/8	yellowish brown	subsoil
39	13	1	silt	cobbles	10yr 4/3	brown	
	25	2	silt	cobbles	10yr 5/8	yellowish brown	bedrock
40	16	1	silt	cobbles	10yr 4/3	brown	
	37	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
41	10	1	silt		10yr 4/3	brown	bedrock
42	15	1	silt	cobbles	10yr 4/3	brown	
	35	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
43	18	1	silt	gravel, cobbles	10yr 4/3	brown	
	40	2	silt		10yr 5/8	yellowish brown	subsoil
44	18	1	silt	gravel, cobbles	10yr 4/3	brown	
	40	2	silt	gravel, cobbles	10yr 5/8	yellowish brown	subsoil
45	25	1	silt	gravel, cobbles	10yr 4/3	brown	
	45	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
46	20	1	silt	cobbles	10yr 4/3	brown	
	40	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
47	17	1	silt loam	gravel, roots	10yr 4/2	dark grayish brown	
	28	2	silt clay	gravel, roots	10yr 5/3	brown	impasse (roots)
48	23	1	silt loam	gravel, cobbles	10yr 4/2	dark grayish brown	
	45	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
49	18	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	38	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
50	19	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	41	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
51	21	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	41	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
52	21	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	44	2	silt clay		10yr 6/6	brownish yellow	subsoil
53	20	1	silt loam	gravel, roots	10yr 4/2	dark grayish brown	
	46	2	silt clay	gravel	10yr 6/6	brownish yellow	subsoil
54	16	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	39	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
55	15	1	silt loam	gravel, cobbles, roots	10yr 4/2	dark grayish brown	
	43	2	silt clay	gravel, cobbles	10yr 6/6	brownish yellow	subsoil
56	13	1	silt loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	36	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
57	16	1	silt loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	40	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
58	21	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	40	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
59	17	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	39	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
60	18	1	silt	gravel, cobbles	10yr 4/3	brown	
	40	2	silt	gravel, cobbles	10yr 5/8	yellowish brown	subsoil

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
61	15	1	silt loam		10yr 5/4	yellowish brown	
	41	2	sand		10yr 6/8	brownish yellow	subsoil
62	11	1	silt		10yr 4/3	brown	
	40	2	sand		10yr 6/8	brownish yellow	subsoil
63	15	1	silt loam clay		10yr 3/3	dark brown	
	44	2	sand clay		10yr 6/8	brownish yellow	subsoil
64	18	1	silt loam		10yr 3/3	dark brown	
	40	2	sand		10yr 6/8	brownish yellow	impasse (roots)
65	15	1	silt		10yr 3/3	dark brown	
	35	2	sand		10yr 6/8	brownish yellow	impasse (rocks)
66	21	1	loam		10yr 4/3	brown	
	46	2	sand		10yr 6/6	brownish yellow	subsoil
67	15	1	loam		10yr 4/3	brown	
	41	2	sand		10yr 5/8	yellowish brown	subsoil
68	21	1	silt loam		10yr 5/3	brown	
	30	2	sand clay		10yr 6/8	brownish yellow	impasse (roots)
69	16	1	loam		10yr 4/3	brown	
	36	2	sand clay	roots	10yr 6/3	pale brown	impasse (rocks)
70	18	1	silt	cobbles	10yr 4/3	brown	
	30	2	silt	cobbles	10yr 5/8	yellowish brown	bedrock
71	20	1	silt	cobbles	10yr 4/3	brown	
	40	2	silt	cobbles	10yr 5/8	yellowish brown	subsoil
72	11	1	silt loam		10yr 4/3	brown	
	36	2	sand		10yr 6/6	brownish yellow	subsoil
73	16	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	35	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
74	14	1	silt		10yr 4/2	dark grayish brown	
	39	2	sand		10yr 6/8	brownish yellow	subsoil
75	19	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	39	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
76	24	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	41	2	silt clay	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
77	19	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	43	2	silt clay	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
78	27	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	42	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
79	27	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	impasse (rocks)
80	16	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	34	2	silt clay	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
81	16	1	silt clay	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	33	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
82	20	1	silt loam clay	gravel, cobbles, roots	10yr 3/1	very dark gray	
	39	2	silt clay	gravel, cobbles	10yr 5/3	brown	subsoil
83	24	1	silt loam clay		10yr 5/2	grayish brown	
	43	2	sand clay		10yr 6/8	brownish yellow	subsoil
84	12	1	silt		10yr 5/2	grayish brown	
	37	2	sand		10yr 7/4	very pale brown	subsoil
85	17	1	silt clay		10yr 6/3	pale brown	
	34	2	sand loam		10yr 7/8	yellow	subsoil

519531: Phase IB Archeological Investigation, Glide Path Ulster

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
86	18	1	silt loam	gravel, cobbles, roots	10yr 3/2	very dark grayish brown	
	36	2	silt clay	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
87	20	1	silt	cobbles	10yr 4/3	brown	
	40	2	silt	cobbles	10yr 6/8	brownish yellow	subsoil

Appendix 2: Artifact Inventory (No Artifacts Collected)

HARTGEN
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PHASE IB ARCHEOLOGICAL FIELD RECONNAISSANCE

Lincoln Park Grid Support Center – East Site

Frank Sottile Boulevard
Town of Ulster
Ulster County, New York

HAA # 5195-21
OPRHP 19PR00580

Submitted to:
The Chazen Companies
21 Fox Street
Poughkeepsie, New York 12601

Prepared by:
Hartgen Archeological Associates, Inc.

1744 Washington Avenue Ext.
Rensselaer, New York 12144
p +1 518 283 0534
f +1 518 283 6276
e hartgen@hartgen.com

www.hartgen.com

An ACRA Member Firm
www.acra-crm.org

January 2019

MANAGEMENT SUMMARY

SHPO Project Review Number:
Involved State and Federal Agencies: *New York State Department of Environmental Conservation (NYSDEC)*
Phase of Survey: *IB Archaeological Field Reconnaissance*

LOCATION INFORMATION

Municipality: *Town of Ulster*
County: *Ulster County*

SURVEY AREA

Length: *1,105 feet (336 meters)*
Width: *713 feet (217 meters)*
Acres: *~10 acres total*

ARCHEOLOGICAL SURVEY OVERVIEW

Number and Interval of Shovel Tests: *96 shovel tests at 15 meter (50 foot) intervals*

RESULTS OF ARCHEOLOGICAL SURVEY

Number and Name of Precontact Sites Identified: *One – Lincoln Park Precontact Site*
Number and Name of Historic Sites Identified: *None*
Number and Name of Sites Recommended for Phase II or Avoidance: *One – Lincoln Park Precontact Site*

RECOMMENDATIONS

The presence of numerous artifacts suggesting chert quarrying, indicates that additional Phase II testing of the identified site area is appropriate. That testing should include reduced interval testing around positive tests, excavation of 6-7 stratigraphic units and raking to clear away leaf litter followed by surface survey to identify any exploited chert outcrops (especially of the steep slope along the east side of the site).

Report Authors: *Bradley W. Russell, Ph.D.*
Date of Report: *January 2019*

ABSTRACT

Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase IB archeological field reconnaissance for the proposed Lincoln Park Grid Support Center - East Site (Project) located in the Town of Ulster, Ulster County, New York. The Project requires approvals by the New York State Department of Environmental Conservation (NYSDEC) and the Town of Ulster Planning Board. The proposed project is located southeast of the intersection of Frank Sottile Boulevard and Miron Lane in the Town of Ulster, Ulster County, New York. The project involves the installation of a battery facility on the east side of Frank Sottile Boulevard. The area of potential effects (APE) includes all portions of the property that will be directly altered by the proposed undertaking. The APE encompasses ~10 acres. Roughly 4 acres of the area was either sloped or wet, resulting in approximately 6 acres of testable terrain.

Hartgen produced an earlier Phase I Archaeological Investigation for the Planned Grid Support Center on the opposite side of Frank Sottile Boulevard (Hartgen Archeological Associates Inc. 2017) (18PR00239). That study included a Phase IA Literature Review and Archeological Sensitivity Assessment that applies equally to this Project Area. It was determined that a shovel testing program would be an appropriate approach to characterizing the archaeological remains in the current Project Area. A total of 96 shovel tests were excavated in dry and relatively level areas of the APE. Most were located along the tops of the various ridges running north/south across the Project Area. They were excavated to an average depth of 32 cm. Eleven of the tests excavated were positive for Precontact remains. A total of 15 pieces of light to dark grey, lithic debris (shatter and block flakes) were recovered along with two cores.

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PHASE I CULTURAL RESOURCES SURVEY

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase IB archeological field reconnaissance for the proposed Lincoln Park Grid Support Center – East Site (Project) located in the Town of Ulster, Ulster County, New York. The Project requires approvals by the New York State Department of Environmental Conservation (NYSDEC) and the Town of Ulster Planning Board.

This investigation was conducted to comply with Section 14.09 of the State Historic Preservation Act and will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The investigation was conducted according to the New York Archaeological Council's *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections* (1994), which are endorsed by OPRHP. This report has been prepared according to OPRHP's *State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements* (2005).

Hartgen produced an earlier Phase I Archaeological Investigation for the previously planned location for the Lincoln Park Grid Support Center on the opposite side of Frank Sottile Boulevard (Hartgen Archeological Associates Inc. 2017) (18PR00239). That study included a Phase IA Literature Review and Archeological Sensitivity Assessment that applies equally to this Project Area. That study concluded that the area had high sensitivity and moderate to high potential for Precontact remains based in part on the presence of 17 known Precontact sites within one mile of the APE. It found a low sensitivity and a low potential for Historic remains, noting that historic maps show no occupation within or adjacent to the area at all. The Phase IB Archeological Field Reconnaissance did not detect any quarrying sites, rock shelters or artifacts and the authors recommended no additional archaeological investigation for the location.

2 Project Information

2.1 Project Location

The proposed project is located southeast of the intersection of Frank Sottile Boulevard and Miron Lane in the Town of Ulster, Ulster County, New York.

2.2 Description of the Project

The project involves the installation of a battery facility on the east side of Frank Sottile Boulevard.

2.3 Description of the Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the property that will be directly altered by the proposed undertaking. The APE encompasses ~10 acres. Roughly 4 acres of the area was either sloped or wet, resulting in approximately 6 acres of testable terrain. For the purpose of this study, the Project Area and APE are considered to be synonymous and the terms are used interchangeably.

A site visit was conducted by Bradley Russell on December 20, 2019 to observe and photograph existing conditions within the Project Area. The area is wooded primarily with a mix of elm and pine trees (Photo 1). The area is characterized by a series of glacier cut ridges running from north to south with significant sloped and wet areas between them (Photos 2-5). A particularly steep ridge runs the length of the east side of the APE, dropping off to a creek below (Photo 6-7).

According to the Geologic Map of New York, the project area is located at the intersection of two geologic subgroups, the Trenton Group and the Undifferentiated Lower Devonian and Silurian rocks. The Trenton Group consists of Austin Glen Formation greywacke and shale. The Lower Devonian and Silurian rocks include Port Ewen and Manlius limestones, Rondout dolostone, Binnewater sandstone, and High Falls shale (Fisher 1970). Chert bearing limestone and dolostone from the Onondaga Limestone and Ulster Group are also present, both in exposed outcrops and in medium to large cobbles found throughout the APE.

3 Archeological Survey

The previous Phase I study conducted by Hartgen (Hartgen Archeological Associates Inc. 2017) concluded that the area had high sensitivity and moderate to high potential for Precontact remains. It also found a low sensitivity and a low potential for Historic remains. It was determined that a shovel testing program would be an appropriate approach to characterizing the archaeological remains in the current Project Area.

3.1 Methodology

3.1.1 Shovel Testing

Shovel tests were excavated at a standard interval of 15 meters (50 ft). Each shovel test was 40 centimeters (16 in) in diameter. All excavated soil was passed through 0.25-inch hardware mesh and examined for both precontact (Native American) and historic artifacts. The stratigraphy of each test was recorded including the depth, Munsell color, soil description, and artifact content (Munsell Color 2000). The location of each shovel test was plotted on the project map. Test excavation was photographed (Photos 8-10).

3.1.2 Artifacts and Laboratory

As general procedure, all precontact (Native American) cultural material identified during the fieldwork are collected. Significant historic artifacts such as glass, ceramics, food remains, hardware, and miscellaneous items are collected. Coal, ash, cinder, brick, and modern materials are noted. Any artifacts collected are placed in paper or plastic bags labeled by provenience and inventoried in a bag list. Bags are numbered in the field and transported to the Hartgen laboratory in the Town of North Greenbush, Rensselaer County, New York, for processing.

Shovel test records and other provenience information were entered into a Microsoft *Access* database (Appendix 1). Artifacts were cleaned and cataloged. Cataloging entailed entering artifact provenience information, counts, weights, and descriptive information into the database (Appendix 2).

3.2 Results

The Phase IB archeological field reconnaissance was conducted on December 20, 2018 and January 10, 2019. The field crew consisted of Thomas Boyd, Adam Gersten, David Wendell and Amy Wilson under the direction of Principle Investigator Bradley Russell, Ph.D. The weather was partly cloudy and cold on both days. Conditions did not have a negative effect on visibility, artifact recovery, etc.

A total of 96 shovel tests were excavated in dry and relatively level areas of the APE. Most were located along the tops of the various ridges running north/south across the Project Area. They were excavated to an average depth of 32 cm. Overall, the soils were rather shallow, particularly the A horizon. A number of tests terminated at bedrock. There is no evidence that the area has been previously plowed, suggesting that remains of lithic extraction and reduction should be undisturbed by later agricultural activity.

Eleven of the tests excavated were positive for Precontact remains. A total of 15 pieces of light to dark grey, lithic debris (shatter and block flakes) were recovered along with two cores. The bulk of this material was

blocky, angular chert shatter typical of quarry site raw material extraction (Photos 11-19). Many of the finds had a significant percentage of cortex. Two discarded cores were discovered, one from STP 163 and the other from the surface alongside STP 178. The first of these (Photos 20 and 21) is a mix of usable chert, rough cortex and the surrounding limestone from which it was extracted. The other (Photos 22 and 23) was a roughly spherical cobble, flaked several times to examine the chert, which was of poor quality, porous and full of inclusions. It was apparently discarded as unusable.

Specific exploited chert outcrops were not encountered during this initial work. This is due, in part, to a thick layer of fallen leaves covering the ground. A number of limestone cobbles appear to have been intentionally broken open to look for chert within (Photos 24-26). The distribution of the positive tests along a steep and deep ravine running the length of the east side of the site, suggests that the most likely location of the outcrops would be on the slope of the ravine. The previously reported Callanan Ridge Quarry/Chert outcrop (USN Number: 11118.000077) is located on the opposite slope of the same ravine just beyond the APE of this project. Additional inspection, including removal of the leaf litter will be necessary to confirm that hypothesis.

3.2.1 Archeological Site 1

Table 1. Summary of Archeological Site 1

Characteristic	**Site information**
Site Name	Lincoln Park Precontact Site
Description	Likely quarry site characterized by 15 pieces of chert shatter (many with cortex) and two chert cores, most located on top of a ridge along a steep ravine
Date	January 2019
Function	Quarry/workshop
Size	~ 4 acres
Location	NAD 83, UTM Zone 18, 584515 Easting, 4645643 Northing

4 Recommendations

The presence of numerous artifacts suggesting chert quarrying, indicates that additional Phase II testing of the identified site area is appropriate. That testing should include reduced interval testing around positive tests, excavation of 6-7 stratigraphic units and raking to clear away leaf litter followed by surface survey to identify any exploited chert outcrops (especially of the steep slope along the east side of the site).

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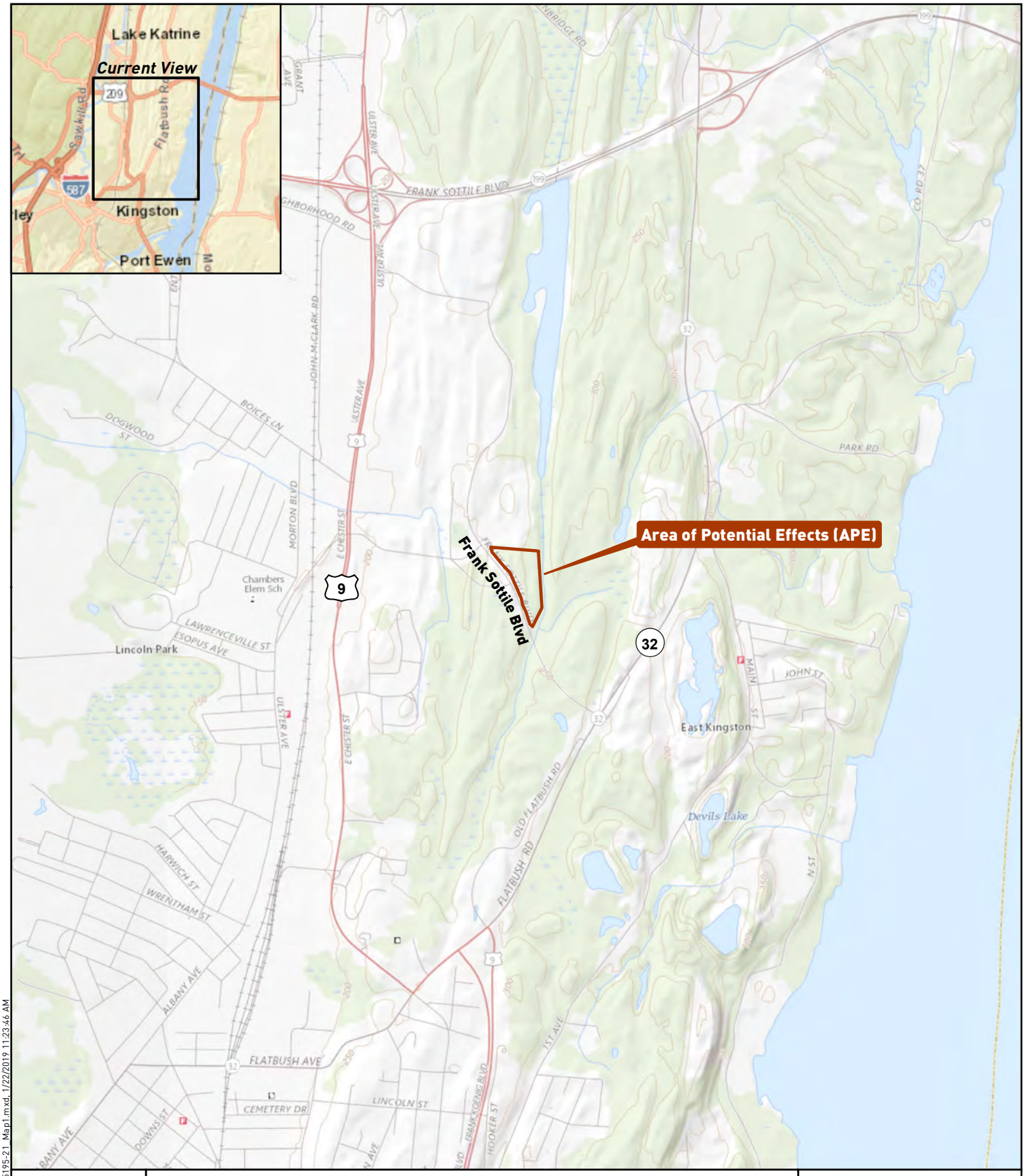
Maps



N

1,000 0 1,000 2,000 Feet

300 0 300 600 Meters

Note: Contour interval is 50 feet.

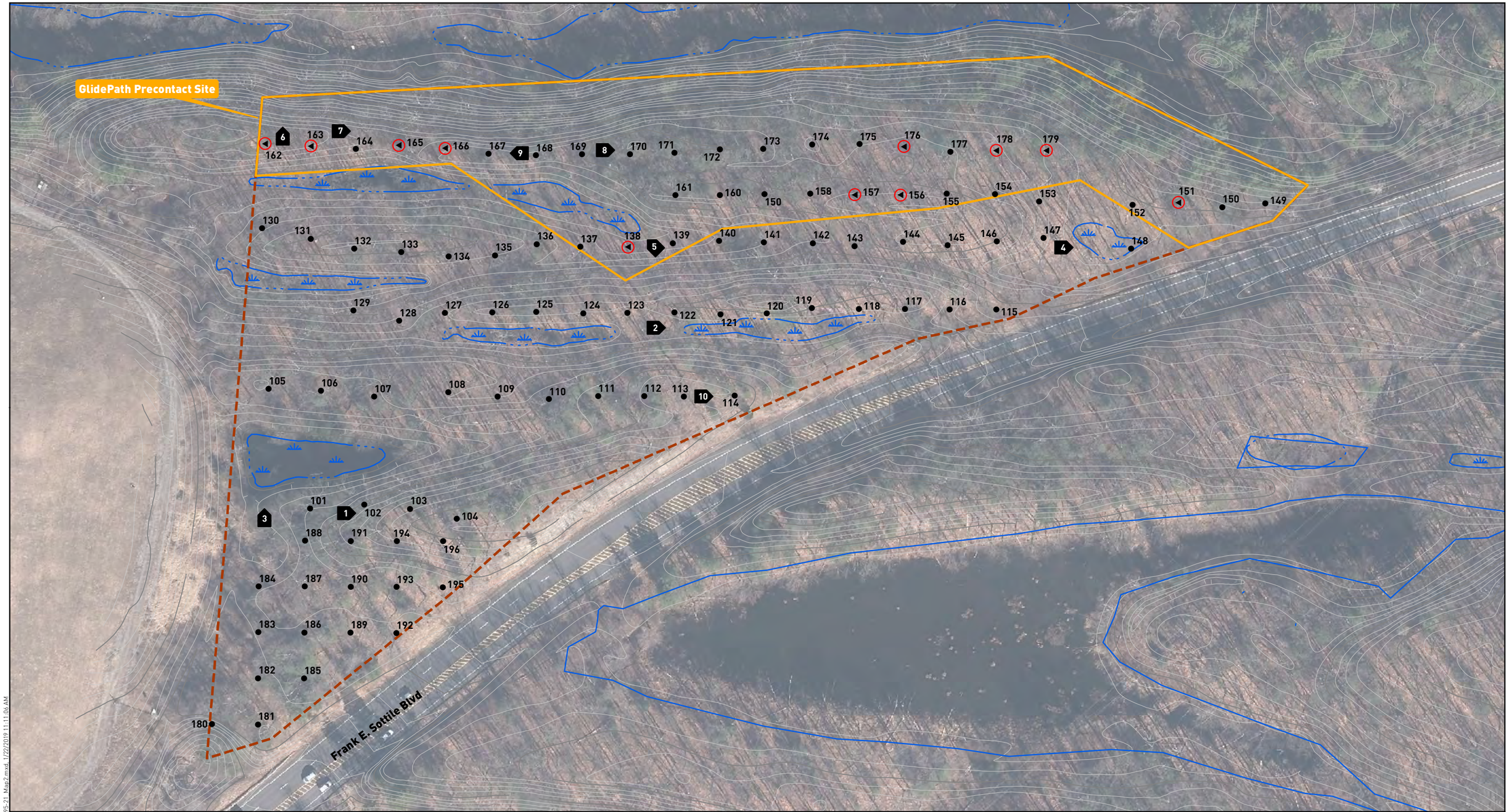
Project Location

GIS Services Accessed 1/29/2019:
Environmental Systems Research Institute, Inc., World Street Map
The National Map, USGS Topo Layer

HARTGEN archeological associates inc

Map 1

E:\5195\GIS\Documents\HAA 5195-21 Map1.mxd, 1/22/2019 11:23:46 AM



50 0 50 100 Feet
15 0 15 30 Meters
Note: Contour interval is 2 feet.

Legend

- Shovel Test (ST)
- Positive ST (precontact)
- Photo Angle
- Pond/Wetland
- Site Boundary
- Area of Potential Effects (APE)

Project Map

New York State Office of Information Technology Services Imagery, 2016

HARTGEN archeological associates inc

Map 2

E:\5195\GIS\Documents\HAA_5195_21_Map2.mxd, 1/22/2019 11:11:06 AM

Photographs

Photo 1. View facing south showing typical vegetation in the Project Area.

Photo 2. View facing south showing glacially impacted terrain characterized by parallel ridges with water/wet areas in between. Note the exposed bedrock along the ridge at the left.

Photo 3. View facing north of wetlands along the north end of the APE.

Photo 4. View facing south of wetlands along the southeast end of the APE.

Photo 5. View facing northeast of wetlands along the east side of the APE.

Photo 6. View facing east of the deep ravine and creek running the length of the east side of the Project Area.

Photo 7. View facing southeast of the ridge along deep ravine running the length of the east side of the Project Area where the majority of positive tests were located.

Photo 8. Crew members Amy Wilson excavating STP 170 (foreground) and David Wendell excavating STP 171 (background).

Photo 9. Crew member David Wendell excavating STP 167.

Photo 10. Crew member Adam Gersten excavating STP 114.

Photo 11. Lithic artifacts recovered from STP 138.

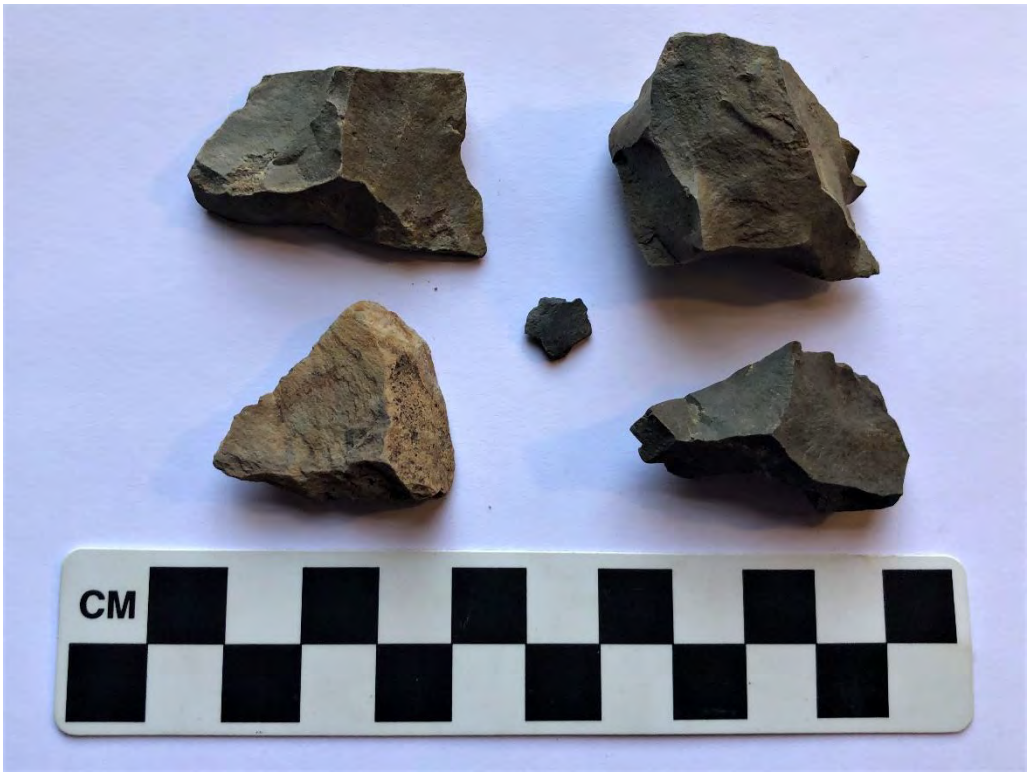


Photo 12. Lithic artifacts recovered from STP 151.

Photo 13. Lithic artifact recovered from STP 156.

Photo 14. Lithic artifact recovered from STP 157.

Photo 15. Lithic artifact recovered from STP 162.

Photo 16. Lithic artifacts recovered from STP 166.

Photo 17. Lithic artifacts recovered from STP 176.

Photo 18. Lithic artifact recovered from STP 178.

Photo 19. Lithic artifacts recovered from STP 179.

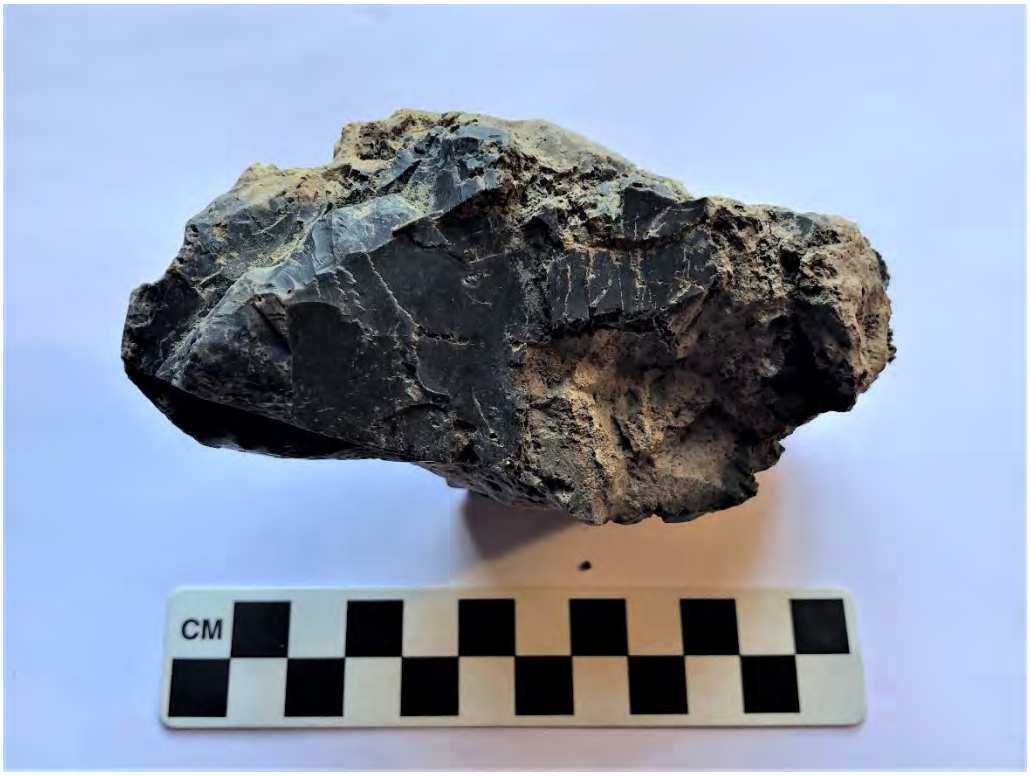


Photo 20. Lithic core recovered from STP 163.

Photo 21. Lithic core recovered from STP 163.

Photo 22. Lithic core/tested cobble recovered from the surface near STP 178.

Photo 23. Lithic core/tested cobble recovered from the surface near STP 178.

Photo 24. Limestone coble, possibly tested for chert within.

Photo 25. Limestone coble, possibly tested for chert within.

Photo 26. Limestone coble, possibly tested for chert within.

Appendix 1: Shovel Test Records

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
101	12	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	24	2	silt loam	cobbles	2.5y 5/4	light olive brown	bedrock
102	8	1	silt sand	exfoliating bedrock, roots	10yr 2/2	very dark brown	
	38	2	silt sand	exfoliating bedrock, roots	10yr 5/6	yellowish brown	bedrock
103	8	1	loam	gravel, cobbles, exfoliating bedrock	10yr 2/2	very dark brown	
	13	2	loam	gravel, cobbles, exfoliating bedrock	2.5y 5/6	light olive brown	bedrock
104	8	1	silt loam	gravel, roots	2.5y 3/2	very dark grayish brown	
	36	2	silt sand	exfoliating bedrock, roots	2.5y 6/4	light yellowish brown	bedrock
105	10	1	silt loam	roots	10yr 5/4	yellowish brown	
	42	2	loam clay	gravel, roots	2.5y 6/4	light yellowish brown	subsoil
106	13	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	36	2	silt loam	cobbles	2.5y 5/4	light olive brown	subsoil
107	40	1	silt	gravel, cobbles, roots	2.5y 5/6	light olive brown	subsoil
108	15	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	33	2	silt loam	cobbles	2.5y 5/4	light olive brown	subsoil
109	39	1	loam clay	cobbles, roots	2.5y 6/4	light yellowish brown	subsoil
110	10	1	loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	30	2	silt loam	gravel, cobbles	2.5y 5/6	light olive brown	subsoil
111	11	1	silt loam	roots	10yr 3/2	very dark grayish brown	
	34	2	silt loam	cobbles	2.5y 5/4	light olive brown	subsoil

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
112	7	1	silt loam	roots	2.5y 5/4	light olive brown	
	40	2	loam clay	cobbles, roots	2.5y 6/4	light yellowish brown	subsoil
113	10	1	loam	gravel, cobbles	2.5y 3/2	very dark grayish brown	
	31	2	silt	gravel, cobbles, roots	2.5y 5/6	light olive brown	subsoil
114	39	1	silt loam	cobbles, exfoliating bedrock, roots	10yr 5/6	yellowish brown	subsoil
115	24	1	silt loam	cobbles, roots	10yr 2/2	very dark brown	
	32	2	silt loam	cobbles, roots	10yr 5/4	yellowish brown	impasse (rocks)
116	13	1	loam	gravel, cobbles, roots	10yr 4/4	dark yellowish brown	
	30	2	silt loam	gravel, cobbles, roots	2.5y 5/6	light olive brown	subsoil
117	9	1	silt loam	roots	10yr 5/2	grayish brown	
	42	2	silt loam	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
118	6	1	loam	gravel, cobbles, exfoliating bedrock, roots	10yr 3/1	very dark gray	
	20	2	sand loam	gravel, cobbles, exfoliating bedrock	2.5y 5/6	light olive brown	bedrock
119	15	1	silt loam	roots	10yr 3/2	very dark grayish brown	
	35	2	silt loam	cobbles	10yr 5/4	yellowish brown	subsoil
120	5	1	silt loam	exfoliating bedrock	10yr 3/2	very dark grayish brown	bedrock
121	16	1	silt loam	gravel, roots	10yr 4/3	brown	
	33	2	silt loam	exfoliating bedrock, roots	10yr 5/6	yellowish brown	bedrock
122	9	1	loam	gravel, cobbles, exfoliating bedrock	10yr 2/2	very dark brown	
	15	2	sand	gravel, exfoliating bedrock	10yr 5/4	yellowish brown	bedrock

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
123	10	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	24	2	silt loam	cobbles	2.5y 5/4	light olive brown	bedrock
124	8	1	silt loam	exfoliating bedrock, roots	10yr 4/3	brown	
	45	2	silt loam	gravel, cobbles, roots	10yr 6/4	light yellowish brown	subsoil
125	10	1	sand loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	30	2	silt loam	gravel, cobbles, exfoliating bedrock	10yr 5/8	yellowish brown	subsoil
126	10	1	silt loam	roots	10yr 3/2	very dark grayish brown	
	24	2	silt loam	cobbles, exfoliating bedrock	2.5y 5/4	light olive brown	bedrock
127	27	1	silt loam	gravel, roots	10yr 3/3	dark brown	bedrock
128	17	1	silt loam	cobbles, roots	2.5y 3/2	very dark grayish brown	
	33	2	loam clay	cobbles, roots	2.5y 6/4	light yellowish brown	impasse (rocks)
129	15	1	silt loam	gravel, cobbles, roots	10yr 4/3	brown	
	34	2	silt loam	gravel, cobbles	10yr 5/6	yellowish brown	subsoil
130	12	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	36	2	silt loam	cobbles	2.5y 5/4	light olive brown	subsoil
131	17	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	39	2	silt clay		10yr 6/6	brownish yellow	subsoil
132	14	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	32	2	silt clay		10yr 6/6	brownish yellow	subsoil
133	3	1	loam	gravel	2.5y 3/1	very dark gray	
	7	2	loam	gravel	2.5y 4/3	olive brown	
	36	3	loam	gravel	2.5y 5/6	light olive brown	subsoil

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
134	10	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	23	2	silt clay	roots	10yr 6/6	brownish yellow	bedrock
135	5	1	loam	gravel	2.5y 3/1	very dark gray	
	7	2	loam	gravel	2.5y 4/3	olive brown	
	30	3	loam	gravel	2.5y 5/6	light olive brown	subsoil
136	12	1	silt loam	roots	10yr 4/2	dark grayish brown	
	32	2	silt clay		10yr 6/6	brownish yellow	subsoil
137	6	1	loam	gravel	2.5y 3/1	very dark gray	
	16	2	loam	gravel	2.5y 5/6	light olive brown	subsoil
138	3	1	loam	gravel	2.5y 3/1	very dark gray	
	10	2	loam	gravel	2.5y 4/3	olive brown	
	30	3	loam	gravel	2.5y 6/6	olive yellow	subsoil
139	15	1	silt loam	roots	10yr 4/2	dark grayish brown	
	27	2	silt clay	roots	10yr 6/6	brownish yellow	water
140	12	1	silt loam	roots	10yr 4/2	dark grayish brown	
	30	2	silt clay		10yr 6/4	light yellowish brown	subsoil
141	7	1	loam	gravel	2.5y 3/1	very dark gray	
	10	2	loam	gravel	2.5y 4/3	olive brown	
	37	3	loam	gravel	2.5y 5/6	light olive brown	subsoil
142	14	1	silt loam	roots	10yr 4/2	dark grayish brown	
	33	2	silt clay		10yr 6/6	brownish yellow	subsoil
143	6	1	loam	gravel	2.5y 3/1	very dark gray	
	12	2	loam	gravel	2.5y 4/3	olive brown	
	30	3	loam	gravel	2.5y 5/6	light olive brown	subsoil
144	15	1	silt loam	roots	10yr 3/2	very dark grayish brown	
	35	2	silt clay		10yr 4/6	dark yellowish brown	subsoil

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
145	6	1	loam	gravel	2.5y 3/1	very dark gray	
	15	2	loam	gravel	2.5y 4/3	olive brown	
	44	3	loam	gravel	2.5y 5/6	light olive brown	subsoil
146	15	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	36	2	silt clay		10yr 5/4	yellowish brown	subsoil
147	6	1	loam	gravel	2.5y 3/1	very dark gray	
	10	2	loam	gravel	2.5y 4/3	olive brown	
	33	3	loam	gravel	2.5y 5/6	light olive brown	subsoil
148	41	1	silt sand loam	cobbles, crushed stone, roots	10yr 3/1	very dark gray	impasse (rocks)
					10yr 5/6	yellowish brown	
149	14	1	loam	gravel	2.5y 3/1	very dark gray	
	29	2	loam		2.5y 4/3	olive brown	
	48	3	loam	gravel	2.5y 5/6	light olive brown	subsoil
150	17	1	silt loam	roots	10yr 4/2	dark grayish brown	
	38	2	silt clay	roots	10yr 6/4	light yellowish brown	subsoil
151	4	1	loam	charcoal, gravel	10yr 3/2	very dark grayish brown	
	40	2	loam	gravel	10yr 5/6	yellowish brown	subsoil
152	15	1	silt loam	roots	10yr 4/2	dark grayish brown	
	33	2	silt clay		10yr 6/6	brownish yellow	subsoil
153	18	1	silt loam	charcoal, roots	10yr 4/2	dark grayish brown	
	36	2	silt clay	roots	10yr 6/6	brownish yellow	subsoil
154	15	1	silt loam	roots	10yr 4/2	dark grayish brown	
	36	2	silt loam	roots	10yr 6/6	brownish yellow	subsoil
155	20	1	silt loam	roots	10yr 4/2	dark grayish brown	
	41	2	silt clay		10yr 6/6	brownish yellow	subsoil
156	6	1	loam	gravel	2.5y 3/1	very dark gray	
	30	2	loam	roots, gravel	2.5y 5/6	light olive brown	subsoil

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
157	10	1	silt loam	gravel, roots	10yr 2/2	very dark brown	
	40	2	loam clay	gravel	10yr 5/6	yellowish brown	subsoil
158	11	1	silt loam	roots	10yr 4/2	dark grayish brown	
	29	2	silt clay	roots	10yr 6/6	brownish yellow	subsoil
159	20	1	silt loam	roots	10yr 4/2	dark grayish brown	
	41	2	silt clay	roots	10yr 6/6	brownish yellow	subsoil
160	17	1	silt loam	roots	10yr 4/2	dark grayish brown	
	36	2	silt clay	roots	10yr 6/6	brownish yellow	subsoil
161	19	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	38	2	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
162	8	1	loam	gravel	2.5y 3/1	very dark gray	
	26	2	loam	gravel	2.5y 5/6	light olive brown	subsoil
163	10	1	silt loam	cobbles, roots	10yr 2/2	very dark brown	
	20	2	loam clay	exfoliating bedrock	10yr 6/6	brownish yellow	bedrock
164	12	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	30	2	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
165	13	1	silt loam	exfoliating bedrock, roots	10yr 3/2	very dark grayish brown	bedrock
166	17	1	loam	gravel	2.5y 3/1	very dark gray	
	27	2	loam	gravel	2.5y 5/6	light olive brown	impasse (rocks)
167	11	1	silt loam	gravel, cobbles, exfoliating bedrock	10yr 2/2	very dark brown	bedrock
168	10	1	silt loam	cobbles	10yr 3/2	very dark grayish brown	
	26	2	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
169	9	1	silt loam	gravel, exfoliating bedrock	10yr 2/2	very dark brown	bedrock

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
170	9	1	loam	gravel	2.5y 3/1	very dark gray	
	14	2	loam	gravel	2.5y 4/4	olive brown	
	30	3	loam	exfoliating bedrock, gravel	2.5y 5/6	light olive brown	subsoil
171	12	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	31	2	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
172	10	1	silt loam	roots	10yr 2/2	very dark brown	
	42	2	loam clay	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
173	9	1	loam	gravel	2.5y 3/1	very dark gray	
	29	2	loam	gravel	2.5y 5/6	light olive brown	subsoil
174	13	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	32	2	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
175	9	1	silt loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	38	2	loam clay	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
176	5	1	loam	gravel	2.5y 3/1	very dark gray	
	30	2	loam	gravel	2.5y 5/6	light olive brown	subsoil
177	15	1	silt loam	cobbles, roots	10yr 4/2	dark grayish brown	
	35	2	silt clay	cobbles	10yr 6/6	brownish yellow	subsoil
178	8	1	silt loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	41	2	loam clay	gravel, cobbles, roots	10yr 5/6	yellowish brown	subsoil
179	20	1	silt loam	charcoal, roots	10yr 3/2	very dark grayish brown	
					10yr 2/1	black	
	43	2	silt clay	cobbles	10yr 5/6	yellowish brown	subsoil
180	22	1	silt loam	gravel, roots	10yr 3/2	very dark grayish brown	
	38	2	silt loam	gravel	2.5y 5/4	light olive brown	subsoil

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
181	9	1	silt loam	roots	2.5y 5/4	light olive brown	
	40	2	loam clay	cobbles, roots	2.5y 6/4	light yellowish brown	subsoil
182	16	1	loam	gravel, roots	10yr 2/2	very dark brown	
	35	2	silt loam	gravel, roots	10yr 6/6	brownish yellow	subsoil
183	11	1	silt loam	roots	2.5y 3/2	very dark grayish brown	
	44	2	silt sand	roots	2.5y 7/4	pale yellow	subsoil
184	17	1	silt loam	gravel, roots	10yr 3/2	very dark grayish brown	
	39	2	silt loam	gravel	2.5y 5/4	light olive brown	subsoil
185	15	1	silt loam	gravel, roots	10yr 3/2	very dark grayish brown	
	33	2	silt clay	gravel	2.5y 5/4	light olive brown	subsoil
186	10	1	loam clay	gravel, cobbles, roots	10yr 2/2	very dark brown	
	32	2	silt clay	gravel, cobbles, roots	10yr 6/3	pale brown	subsoil
187	12	1	silt loam	roots	2.5y 5/4	light olive brown	
	32	2	silt sand	cobbles	2.5y 6/4	light yellowish brown	impasse (rocks)
188	16	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	35	2	silt loam clay	cobbles	2.5y 5/4	light olive brown	subsoil
189	21	1	silt loam	cobbles, roots	10yr 2/1	black	water
190	13	1	sand loam	gravel, cobbles, roots	10yr 2/2	very dark brown	
	31	2	silt loam	gravel, cobbles, roots	2.5y 5/6	light olive brown	subsoil
191	11	1	silt loam	roots	10yr 4/2	dark grayish brown	
	42	2	loam clay	cobbles, roots	10yr 5/4	yellowish brown	subsoil
192	10	1	loam clay	roots	2.5y 3/1	very dark gray	
	41	2	silt clay		2.5y 6/1 2.5y 7/1	gray light gray	subsoil

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Shovel Test Records

	Ending Depth (cm)	Level	Soil Type	Soil Inclusions	Munsell Color		Termination Reason
193	12	1	silt loam	cobbles, roots	10yr 3/2	very dark grayish brown	
	32	2	silt loam	cobbles, roots	2.5y 5/4	light olive brown	subsoil
194	8	1	silt loam		10yr 3/2	very dark grayish brown	
	24	2	silt loam	cobbles, roots	2.5y 5/4	light olive brown	subsoil
195	16	1	loam	gravel, cobbles	10yr 4/3	brown	
	30	2	silt clay	gravel, cobbles	2.5y 5/6	light olive brown	subsoil
196	8	1	loam		2.5y 3/2	very dark grayish brown	
	43	2	sand loam	gravel, cobbles, crushed stone	2.5y 5/6	light olive brown	subsoil

Appendix 2: Artifact Inventory

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Artifact Inventory

Provenience	Level	Feature	Bag	Item	Count	Artifact Description	Material	Weight (g)
1m north of STP 278								
SC 1			12	1	1	debitage	chert and limestone	429.3
				1.1	*1*	*debitage, tested cobble, chert and limestone, with shell fossils*		*429.3*
STP 138	1		1	1	2	debitage	chert	26.2
				1.1	*2*	*debitage, shatter, chert*		*26.2*
STP 151	1		2	1	3	debitage	slatey-chert	39.3
				1.1	*3*	*debitage, shatter, slatey-chert*		*39.3*
STP 151	1		2	2	1	mineral sample	limestone	5.3
STP 151	1		2	3	1	mineral sample	slatey-chert	0.3
STP 156	1		3	1	1	debitage	chert	20.1
				1.1	*1*	*debitage, shatter, chert*		*20.1*
STP 157	2		4	1	1	debitage	chert and limestone	12.0
				1.1	*1*	*debitage, shatter, chert and limestone*		*12.0*
STP 162	1		5	1	1	debitage	slatey-chert	8.0
				1.1	*1*	*debitage, shatter, slatey-chert*		*8.0*
STP 163	1		6	1	1	debitage	chert and limestone	336.2
				1.1	*1*	*debitage, core, chert and limestone, L 11.9, W 7.9, T 5.3 cm*		*336.2*
STP 165	1		7	1	1	mineral sample	limestone	6.4
STP 166	1		8	1	3	debitage	chert	37.0
				1.1	*3*	*debitage, shatter, chert*		*37.0*
STP 166	1		8	2	2	mineral sample	limestone	44.5
STP 166	1		8	3	1	mineral sample	sandstone	194.7

519521: Phase IB Archeological Investigation, GlidePath Battery Installation

Artifact Inventory

Provenience	Level	Feature	Bag	Item	Count	Artifact Description	Material	Weight (g)
STP 176	1		9	1	2	debitage	chert	17.7
				1.1	*2*	*debitage, shatter, chert*		*17.7*
STP 178	1		10	1	1	debitage	chert	11.9
				1.1	*1*	*debitage, block flake, chert, with shell fossil, L 5.1, W 2.7, T 1.3 cm*		*11.9*
STP 179	1		11	1	1	debitage	chert	7.1
				1.1	*1*	*debitage, shatter, chert*		*7.1*
STP 179	1		11	2	1	mineral sample	limestone	82.9
STP 179	1		11	3	2	mineral sample	sandstone	293.3

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

February 06, 2019

Mrs. Jennifer Geraghty
Hartgen Archeological Associates
1744 Washington Avenue Ext
Rensselaer, NY 12144

Re: DEC
Glide Path Battery Installation, Lincoln Park Grid Support Center
Town of Ulster, Ulster County
19PR00580

Dear Mrs. Geraghty:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

OPRHP has reviewed *Phase IB Archeological Field Reconnaissance, Lincoln Park Grid Support Center – East Site, Frank Sottile Boulevard, Town of Ulster, Ulster County, New York* (Hartgen Archeological Associates, January 2019).

The above-referenced investigation has resulted in the identification of a previously unrecorded archaeological site, the Lincoln Park Precontact Site, which has been given the Unique Site Number (USN 11118.000104). OPRHP recommends that this site should be protected from disturbance or, if that is not feasible, it should be subjected to a Phase II evaluation to determine its eligibility for listing on the State/National Register of Historic Places. Please submit either a site avoidance plan or a Phase II work plan for review and comment prior to implementation.

If you have any questions, please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit
Phone: 518-268-2175
e-mail: philip.perazio@parks.ny.gov via email only

cc: Kristy Primeau, Charles Vandrei, and David Witt, DEC
Bradley Russell and Katarina Spero, Hartgen
David Young, Chazen

From:	New York State Parks CRIS Application
To:	jgeraghty@hartgen.com; brussell@hartgen.com; David Young; kristy.primeau@dec.ny.gov; kspero@hartgen.com; david.witt@dec.ny.gov; charles.vandrei@dec.ny.gov
Subject:	SHPO Requested Submission Accepted for Consultation Project: 19PR00580
Date:	Tuesday, February 12, 2019 8:25:44 AM

This message is a notification from the New York State Historic Preservation Office (SHPO) through its Cultural Resource Information System (CRIS). Requested submission IYLCBOSC7WYI has been accepted for project 19PR00580 (Glide Path Battery Installation, Lincoln Park Grid Support Center). Its new submission number is 19PR00580.003.

No action on your part is required at this time. SHPO review of the submission is currently in progress, and you will receive updates by email.

This submission was completed for the following SHPO request in response to project submission 19PR00580.002 (response token Y483D97H95OX): *Please submit either a site avoidance plan or Phase II work plan (see attached letter). Upload using the enclosed link/token.*

If you have any questions about CRIS, please contact CRIS Help at CRISHelp@parks.ny.gov. For any other questions, please call 518-237-8643.

Sincerely,

New York State Historic Preservation Office
Peebles Island State Park, P.O. Box 189, Waterford, NY 12188-0189
518-237-8643 | www.nysparks.com/shpo
CRIS: https://cris.parks.ny.gov

If you did not enter this project directly into CRIS, you are receiving this notification as SHPO or another project contact has entered it in our system. You will receive future correspondence for this project via email.

You may access the project in CRIS at https://cris.parks.ny.gov. If you are a registered CRIS user, the project will appear in the **My Projects** tab on your Home dashboard. If you are a guest user, you may view the project details using the **Find My Project** form on the CRIS Home page after you click **Proceed as Guest**, or by entering the submission token (IYLCBOSC7WYI) in the Lookup tab on the Search page.

ATTACHMENT G
Sound Level Analysis Report

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March 22, 2019

Peter Rood
Lincoln Park DG, LLC
132 North York Street, Suite 3L
Elmhurst, IL 60126

Re: LPGSC Ulster East Site
Frank Scottie Boulevard, Town of Ulster, Ulster County, New York
Chazen Project # 31788.05

Dear Mr. Rood:

The purpose of this report is to obtain an understanding of future sound levels that will emanate from operations at the Lincoln Park Grid Support Center facility at the nearest residential receptor.

Residential Receptor

The nearest residence to the Lincoln Park Grid Support Center facility is located to the West on Riseley Street (Figure 1). The residence is located approximately 1,480'-11" from the transformer and inverter location, and 1,589'-7" from the HVAC location. The area in-between the residence and Glidepath can be described as mostly wooded with undulating topography.

Sound Levels from Equipment

The sound equipment producing the highest sound levels is the HVAC, transformer, and inverter. Equipment data sheets (Appendix A) and measurement distances were provided by Mott MacDonald.

HVAC =89dB, distance of 0.98 ft
Transformer = 55dB, distance of 0.98 ft
Inverter = 66.4 dB, distance of 32.81 ft

Sound Level Projections

The formula to calculate the sound level at a location given the sound level and distance at another location is as follows:

$L_2 = L_1 - \left|20 * \log\frac{r_1}{r_2}\right|$ where:
$L_2 =$ Sound Level at Location 2
$L_1 =$ Sound Level at Location 1
$r_2 =$ Distance to Location 2
$r_1 =$ Distance to Location 1

Using this formula,

the Leq at the nearest residence from the HVAC is calculated as 24.80 dBa

$$L_2 = 89dBa - \left|20 * \log\frac{.98\ ft}{1589.58\ ft}\right| = 24.80\ dBa$$

The Leq at the nearest residence from the transformer is calculated as <0 dBa.

$$L_2 = 55.0\ dBa - \left|20 * \log\frac{0.98\ ft}{1480.92\ ft}\right| =< 0\ dBa$$

The Leq at the nearest residence from the inverter is calculated as 33.31 dBa.

$$L_2 = 66.4\ dBa - \left|20 * \log\frac{32.81\ ft}{1480.92\ ft}\right| = 33.31\ dBa$$

The formula for the sum level of sound pressures of n incoherent radiating sources is as follow:

$$L_\Sigma = 10 * log_{10}\left(10^{\frac{L1}{10}} + 10^{\frac{L2}{10}} + \cdots + 10^{\frac{Ln}{10}}\right)$$

Using this formula for a scenario where all 3 pieces of equipment are running concurrently, the combined sound level at the nearest residence is calculated as 33.88 dBa.

$$L_\Sigma = 10 * log_{10}\left(10^{\frac{24.8}{10}} + 10^{\frac{33.31}{10}}\right) = 33.88 \text{ dBa}$$

Conclusion

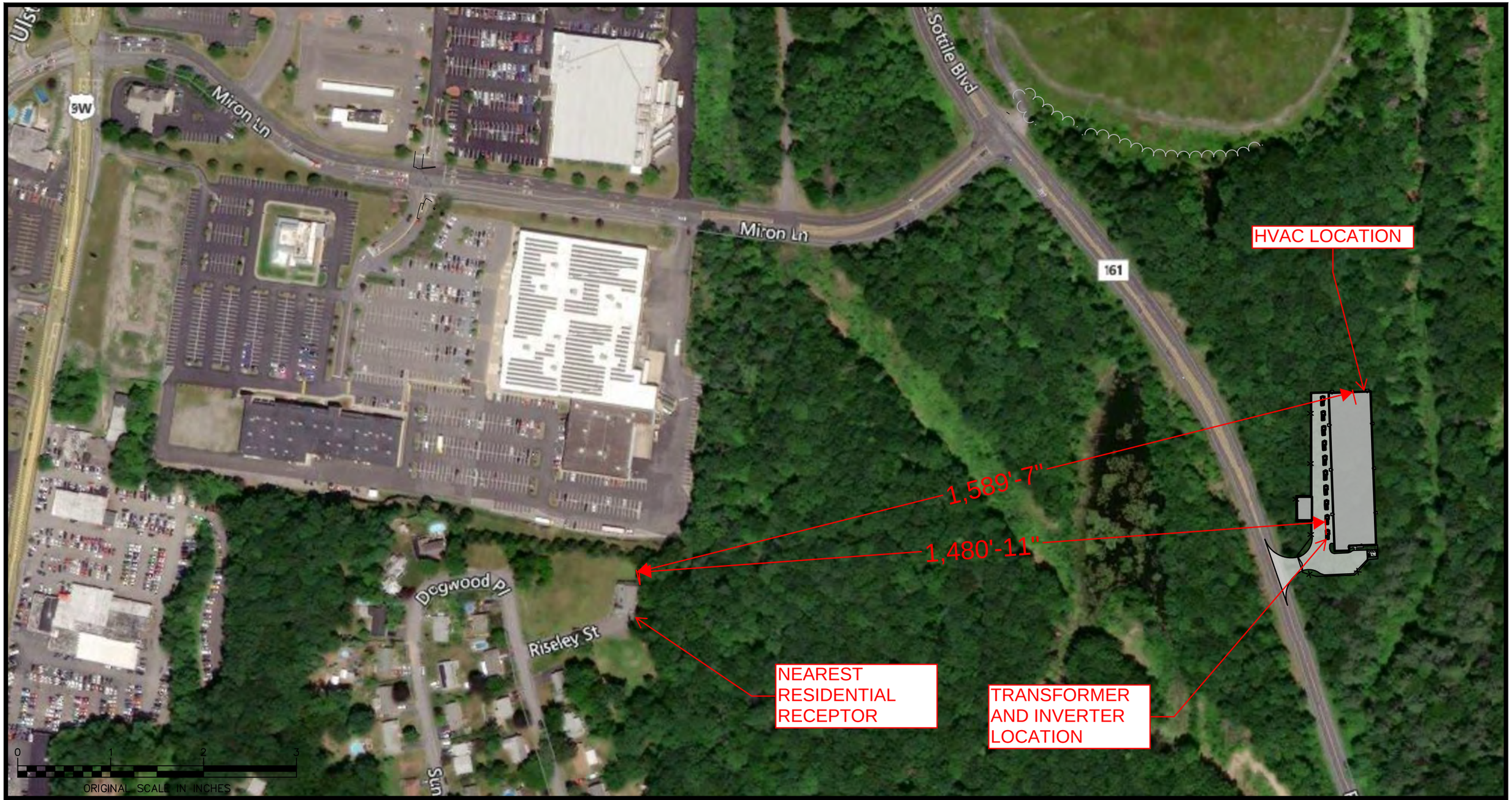
Table I of §117-3 of the Code of the Town of Ulster defines the maximum permissible sound levels by receiving property category. For the residential receiving property category, the maximum permissible sound level between 7:00 AM and 10:00 PM is 72 dBa. This is reduced to 66 dBa between the hours of 10 PM and 7 AM.

With a maximum sound level of 33.88 dBa, this project is well below the maximums identified in the Town code. The woods and undulating terrain would further reduce sound levels. The facility will therefore be in compliance with Town regulations.

Sincerely,

Christopher J LaPorta

Christopher LaPorta, PE
Project Engineer



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Office Locations:

☒ Hudson Valley Office:
21 Fox Street
Poughkeepsie, New York 12601
Phone: (845) 454-3980

☐ Capital District Office:
547 River Street
Troy, New York 12180
Phone: (518) 273-0055

Nashville Tennessee Office:
2416 21st Ave S. (Suite 103)
Nashville, Tennessee 37212
Phone: (615) 380-1359

☐ North Country Office:
20 Elm Street (Suite 110)
Glens Falls, New York 12801
Phone: (518) 812-0513

☐ Westchester NY Office:
1 North Broadway, Suite 803
White Plains, New York 10601
Phone: (914) 997-8510

Chattanooga Tennessee Office:
427 E. 5TH ST. (Suite 201)
Chattanooga, Tennessee 37403
Phone: (423) 241-6575

GLIDEPATH ULSTER EAST SITE

FIGURE 1
SITE LAYOUT MAP

TOWN OF ULSTER, ULSTER COUNTY, NEW YORK

designed	checked
CJL	
date	scale
03/22/19	1"=200'
project no.	
31788.05	
sheet no.	
FIG1	

Drawing Name: Z:\projects\31700-31799\31788.05 Glidepath Ulster East Site\DWG\99_FIG1_31788-05_SOUND.dwg Date Printed: Mar 22, 2019, 10:11am

Appendix A:
Equipment Data Sheets

Efficient

- High power density
- Max. efficiency is 98.7%
- Lower transportation costs (up to 4 inverters in a standard shipping container)

Robust

- Proven OptiCool™ technology for intelligent, effective cooling
- Can be installed worldwide outdoors in any ambient condition

Flexible

- Conforms to all relevant grid requirements worldwide
- Four quadrant operation for full reactive power support
- Stand-alone device or a medium-voltage block solution

Versatile

- Integrated battery communication
- Customized monitoring and control of inverters
- Grid management functions for dynamic grid support
- Integrated voltage supply for internal consumption and external loads

SUNNY CENTRAL STORAGE
2200-US / 2475-US / 2500-EV-US / 2750-EV-US / 2900-US

A full power class lineup for 1,000 and 1,500 V applications

Grid-connected storage systems enable the integration of large amounts of intermittent renewable energy into the utility grid while ensuring maximum grid stability. The Sunny Central Storage is the central component of the SMA system solution for integration of large-scale storage systems. It is designed to compensate for fluctuations in solar energy generation and offers comprehensive grid management services such as automatic frequency control. The battery inverter is optimized for continuous operation at nominal load and temperature of –25°C to +50°C. Thanks to its wide DC voltage range, it is compatible with various types of battery technologies. The Sunny Central Storage is also available as a medium-voltage block solution.

SUNNY CENTRAL STORAGE
2200-US / 2475-US / 2900-US

Technical Data	SCS 2200-US	SCS 2475-US	SCS 2900-US
Battery side (DC)			
DC Voltage range (at 25°C / at 50°C)[1]	570 V to 950 V / 950 V	634 V to 1000 V / 1000V	740 V to 950 V / 850V
Minimal / Maximal DC voltage	545 V / 1000 V [2]	614 V / 1000 V	720 V / 1000 V
Max. DC current (at 25°C / at 50°C)	3960 A / 3600 A		4110 A / 3600 A
Max. interruption current capabillity[3]	6400 A		
Number of DC cables per polarity	26		
Grid side (AC)			
Max. AC power (at 25°C / at 50°C)	2200 kVA / 2000 kVA	2475 kVA / 2250 kVA	2940 kVA / 2670 kVA
Max. AC current (at 25°C / at 50°C)	3300 A / 3000 A	3292 A / 2993 A	3265 A / 2964 A
Max. total harmonic distortion	< 3% at nominal power		
Nominal AC voltage / nominal AC voltage range	385 V / 308 V to 462 V	434 V / 347 V to 520 V	520 V / 468 V to 572 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz		
Power factor at rated power / displacement power factor adjustable	1 / 0 underexcited to 0 overexcited[9]		
Efficiency			
Max. efficiency[4] / European efficiency[4]	98.6% / 98.4%		98.6% / 98.4%
Protective Devices			
Input-side disconnection point	DC load-break switch		
Output-side disconnection point	AC circuit breaker		
DC overvoltage protection	Surge arrester, type I		
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III		
Ground-fault monitoring / remote ground-fault monitoring	○ / ○		
Insulation monitoring	●		
Degree of protection: electronics / air duct & connection area (UL 50)	Type 3R / Type 1		
General Data			
Dimensions (W / H / D)	2780 mm / 2318 mm / 1588 mm		
Weight	< 3400 kg		
Self-consumption (max.[5] / partial load[6] / average[7])	< 8100 W / < 1800 W / < 2000 W		
Self-consumption (standby)	< 300 W		
Auxiliary power supply: integrated 8.4 kVA transformer / external	○ / ○		
Operating temperature range	−25°C to 60°C		
Noise emission[8]	66.4 dB(A)		
Temperature range (standby)	−40°C to 60°C		
Temperature range (storage)	−40°C to 70°C		
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%		
Maximum operating altitude above MSL 2000 m	●		
Fresh air consumption	6500 m³/h		
Features			
DC connection	Terminal lugs on each input (without fuse) with NEMA lug hole pattern		
AC connection	With busbar system (three busbars, one per line conductor)		
Communication	Modbus TCP		
Enclosure / roof color	RAL 9016 / RAL 7004		
Display	○ HMI touchscreen (10.1")		
Supply transformer for external loads	○ (2.5 kVA)		
Certification and approvals	UL 1741, UL 1741 SA[10], IEEE 1547, UL 1998, UL 840 Cat. IV, CAN/CSA C22.2 107.1-1		
EMC standards	IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:2008 modified class A, FCC Part 15 Class A		
● Standard features ○ Optional			
Type designation	SCS-2200-US-10	SCS-2475-US-10	SCS-2900-US-10

1) Another voltage range can be offered on request
2) With power derating
3) Battery short circuit disconnection has to be done on the battery side
4) Efficiency measured without internal power supply
5) Self-consumption at rated operation
6) Self-consumption at < 75% Pn at 25°C
7) Self-consumption averaged out from 5% to 100% Pn at 25°C
8) Sound pressure level at a distance of 10 m
9) Depending on the DC voltage
10) Only for PF 1 / 0.8 underexcited to 0.8 overexcited

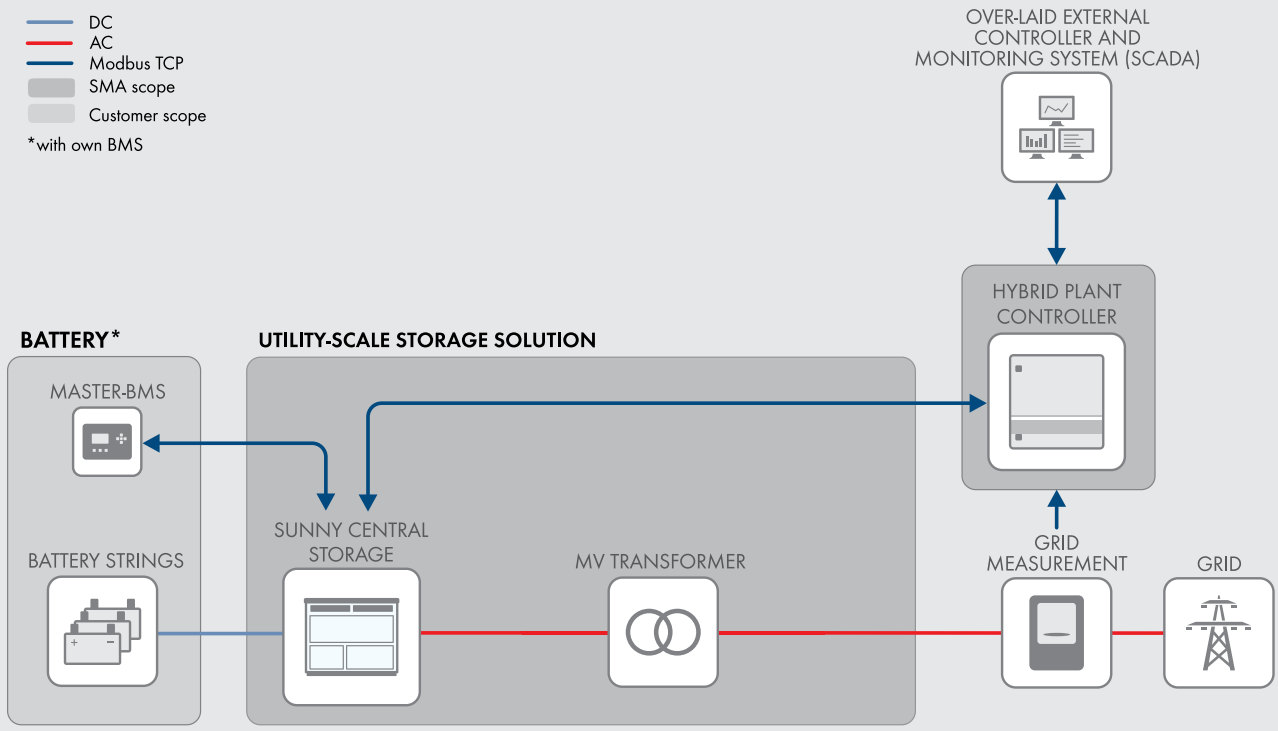
SUNNY CENTRAL STORAGE 2500-EV-US / 2750-EV-US

Technical Data	SCS 2500-EV-US	SCS 2750-EV-US
Battery side (DC)		
DC Voltage range (at 25°C / at 50°C)[1]	850 V to 1425 V / 1250 V	875 V to 1425 V/ 1275 V
Minimal / Maximal DC voltage[2]	778 V / 1500 V	849 V / 1500 V
Max. DC current (at 25°C / at 50°C)	3000 A / 2700 A	3206 A / 2700 A
Max. interruption current capabillity[3]	6400 A	6400 A
Number of DC cables per polarity	26	
Grid side (AC)		
Max. AC power (at 25°C / at 50°C)	2500 kVA / 2250 kVA	2750 kVA / 2500 kVA
Max. AC current (at 25°C / at 50°C)	2624 A / 2362 A	2646 A / 2405 A
Max. total harmonic distortion	< 3% at nominal power	
Nominal AC voltage / nominal AC voltage range	550 V / 440 V to 660 V	600 V / 480 V to 660 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Power factor at rated power / displacement power factor adjustable	1 / 0 underexcited to 0 overexcited[9]	
Efficiency		
Max. efficiency[4] / European efficiency[4]	98.6% / 98.3%	98.7% / 98.6%
Protective Devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	●	
Degree of protection: electronics / air duct & connection area (UL 50)	Type 3R / Type 1	
General Data		
Dimensions (W / H / D)	2780 mm / 2318 mm / 1588 mm	
Weight	< 3400 kg	
Self-consumption (max.[5] / partial load[6] / average[7])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Auxiliary power supply: integrated 8.4 kVA transformer / external	○ / ○	
Operating temperature range	−25°C to 60°C	
Noise emission[8]	64.3 dB(A)	
Temperature range (standby)	−40°C to 60°C	
Temperature range (storage)	−40°C to 70°C	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL 2000 m	●	
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lugs on each input (without fuse) with NEMA lug hole pattern	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Modbus TCP	
Enclosure / roof color	RAL 9016 / RAL 7004	
Display	○ HMI touchscreen (10.1")	
Supply transformer for external loads	○ (2.5 kVA)	
Certification and approvals	UL 62109-1, UL 1741 Chapter 13 CRD 61, UL 1741 SA[10], IEEE 1547, UL 1998, CAN/CSA C22.2 107.1-1	
EMC standards	IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:2008 modified class A, FCC Part 15 Class A	
● Standard features ○ Optional		
Type designation	SCS-2500-EV-US-10	SCS-2750-EV-US-10

1) Another voltage range can be offered on request
2) With power derating
3) Battery short circuit disconnection has to be done on the battery side
4) Efficiency measured without internal power supply
5) Self-consumption at rated operation
6) Self-consumption at < 75% Pn at 25°C
7) Self-consumption averaged out from 5% to 100% Pn at 25°C
8) Sound pressure level at a distance of 10 m
9) Depending on the DC voltage
10) Only for PF 1 / 0.8 underexcited to 0.8 overexcited

SUNNY CENTRAL STORAGE APPLICATIONS

- Provides ancilliary grid services
- Supports the growth of renewable energy in public grids
- Increases fuel saving potential in PV hybrid diesel systems



By combining several of these schemes, higher power systems can be realized

Grid-connected functions

- Setpoints for active and reactive power
- Static grid support Q(U), (P(f) on request)
- Dynamic grid support (FRT)
- Active islanding detection (AID)
- High compatibility with different battery types

Compatible with energy management system functionalities

- External static grid supporting functions
- Ramp-rate control of PV power
- Peak shaving
- Energy shifting
- Genset optimization control
- Reducing necessary spinning reserve of gensets
- Battery start-up and stop sequence
- Operates the battery within optimal operation window

Toll Free +1 888 4 SMA USA
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Table 6. General data — 6 to 7.5 tons — standard efficiency

	6 Tons	7.5 Tons	7.5 Tons
	T/YSC072H3,4,W	Single Compressor T/YSC090H3,4,W	Dual compressor T/YSC092H3,4,W
Cooling Performance[a]			
Gross Cooling Capacity	75,000	92,500	94,800
EER[b]	11.2	11.2	11.2
Nominal cfm/AHRI Rated cfm	2,400/2,100	3,000/2,400	3,000/2,325
AHRI Net Cooling Capacity	71,000	87,000	90,000
IEER (T/Y)[c]	12.9 / 12.7	12.9 / 12.7	12.9/12.7[d]
System Power (kW)	6.36	7.77	8.04
Compressor			
Number/Type	1/Scroll	1/Scroll	2/Scroll
Sound			
Outdoor Sound Rating (dB)[e]	89	89	91
Outdoor Coil			
Type	Microchannel	Microchannel	Microchannel
Configuration	Full Face	Full Face	Face-split
Tube Size (in.)	0.71	1.00	0.71
Face Area (sq. ft.)	16.91	16.91	17.31
Rows/FPI (Fins per inch)	1/23	1/21	1/23
Indoor Coil			
Type	Lanced	Lanced	Lanced
Configuration	Full Face	Full Face	Face-split
Tube Size (in.)	0.3125	0.3125	0.3125
Face Area (sq. ft.)	9.89	9.89	12.36
Rows/FPI (Fins per inch)	3/16	4/16	3/16
Refrigerant Control	Thermal Expansion Valve	Thermal Expansion Valve	Thermal Expansion Valve
Drain Connection No./Size (in.)	1¾ NPT	1¾ NPT	1¾ NPT
Outdoor Fan			
Type	Propeller	Propeller	Propeller
No. Used/Diameter (in.)	1/26	1/26	1/26
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1
CFM	6,037	6400	6600
Motor HP	0.70	0.70	0.70
Motor RPM	1,100	1,100	1,100
Indoor Fan			
Type	FC Centrifugal	FC Centrifugal	FC Centrifugal[f]
No. Used/Diameter (in.)/Width (in.)	1/12x12	1/12x12	1/15x15[g]
Drive Type/No. Speeds/RPM	Belt/Variable/1,750	Belt/Variable/1,750	Belt/Variable/1,750[h]
Motor HP (Standard/Oversized)	1.0/2.0	1.0/3.0	1.0/3.0[i]
Motor Frame Size (Standard/Oversized)	56/56	56/56	56/56
Filters[j]			
Type Furnished	Throwaway	Throwaway	Throwaway
Number Size Recommended	(4) 16x25x2	(4) 16x25x2	(4) 20x25x2
Refrigerant Charge[k]			
lbs of R-410A	5.5	7.5	3.8/3.6
Heating Performance (Gas/Electric Only)[l]			
Heating Input			
Low Heat Input (Btu)	80,000	120,000	120,000
Mid Heat Input (Btu)	120,000	150,000/105,000	150,000/105,000
High Heat Input (Btu)	150,000/105,000	200,000/140,000	200,000/140,000
Heating Output			

Certified Test Report

ABB Inc.
[redacted]
Distribution Transformers

ABB PO: [redacted] Item: [redacted]
Stock Code: [redacted]
Customer Name : [redacted]
Customer Purchase Order : [redacted]
3PH 60 Hertz Coolant - MINERAL OIL
Winding High Voltage - DELTA **BIL: 150**
2000 KVA
34500 Volts
HV Taps : 36220 35360 34500 33640 32780

Mfg Serial Number : [redacted]
Project Name : [redacted]
PADMOUNT
K Factor: 1
Winding Low Voltage
2000 KVA
660Y Volts

Resistance, losses, impedance, efficiency and regulation corrected to 0 degrees C and are based on wattmeter reading unless otherwise stated. The resistance for 3 phase transformers is the sum of the 3 phases in series.

	Resistance(Ohms)		Iexc Amps	Noload Loss	Load Loss	Total Loss				
Test Date	HV	LV	%	@100%V			%Z	%R	%X	X/R
11/09/2017	17.40683	.00166	0.16	2,434	13,402	15,836	6.01	0.67	5.97	8.91
	Quoted Values						N/A			

Regulation @100%Load					
@PF	100%	90%	85%	80%	75%
	0.85	3.35	3.84	4.21	4.52

Temperature rise calculated from basic design data which has been verified by test results of similar unit (Serial Number = [redacted], KVA = 2000.0, High Voltage = 12470, Date = [redacted]

Winding Rise by Resistance in degree C					
Load	HV	LV	Guarantee	Top Fluid	Test Date
Base	50.8	50.5	55	52.5	[redacted]

Insulation Test Levels			
Applied Potential Test			
Winding	Rated Volts	Test Volts applied	Duration of test
HV	34500	50000	60 Sec
LV	660	10000	60 Sec

Induced Potential test:
Voltage = 1320
(Applied to Low Voltage for 7200 Cycles)

Efficiency				
125%	100%	75%	50%	25%
99.32	99.46	99.59	99.73	99.87

Sound Test : Test result from a similar unit
(Serial Number = [redacted], KVA = 2000, High Voltage = 12470, Date = [redacted])

ONAN(db)
50.1

[redacted]