School Age Child Multipliers

GARLING ASSOCIATES

June 21, 2005

Gary Lake, Chairman
Town of Wallkill Planning Board
600 Route 211 East
PO Box 398
Middletown, New York 10940

RE: School Enrollment Forecasts/Statistics regarding Golden Triangle

Dear Chairman Lake:

I was requested to review various statistics and enrollment analyses to provide an opinion on this information as it relates to the future development impacts to our local schools from new residential developments such as Golden Triangle. My background in this area dates back to the early sixties when I performed detailed school enrollment forecasts for municipalities and school districts in Bergen and Passaic Counties in New Jersey and in Orange County while I was Deputy Commissioner of the Orange County Planning Department. All those analyses were performed for municipalities, primarily during 1963-1978.

The purpose of this review was to determine the basic validity of the figures presented based on what we know from our own studies, other area studies and what has been occurring throughout Orange County. Since 1980-1984 planners have relied on the reference book "The Fiscal Impact Handbook" prepared at the Rutgers University Center for Urban Planning by Burchell and Listoken.

During the 1980's and 1990's all professional planners relied on these studies. In the late 1990's and up to now most school districts retain a group at Suffolk County BOCES to perform this work in addition to utilizing "The New Practitioners Guide to Fiscal Impact Analysis" by Burchell, Listoken and Dolphin and the more recent Urban Land Institute (ULI) studies.

While preparing a DEIS for a 314 unit single family subdivision in the Arlington School District in the Town of LaGrange in Dutchess County we were directed to the BOCES study by the School Board and Planning Board. The result was that the Suffolk BOCES figures for LaGrange and surrounding towns were surprisingly similar to the 1980-90 Rutgers studies.

These studies provide an average number of 0.8 to 1.0 public school children per dwelling unit from new and recently developed single family homes. For townhouses, apartments and other multifamily structures the numbers vary based on bedrooms from 0-0.2 for one bedroom dwellings to 0.2 to 0.5 for two and three bedroom dwellings.

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Unless someone can demonstrate otherwise, based on a detailed study that these numbers are incorrect, they are the figures we recommend as the rate of enrollment for the towns in which we work as professional planners for Cornwall, Crawford, Chester, Monroe, Montgomery and Newburgh.

The next portion of my response is to specific letters and data sent to the Planning Board during the past five years.

First, is a letter from Robert H. Sigler, Jr. the former Superintendent of Schools in Middletown dated April 19, 2000. Mr. Sigler states there are 12,386 residential units and 6,314 students in the school district as of the 1999-2000 school year. Based on these statistics, Mr. Sigler comes up with 1.96 school-aged children per unit rather than 0.51. Unfortunately, Mr. Sigler divided residential units by school children rather than school children by residential units to obtain the ratio. Basically, these figures demonstrate one school-aged child for every two dwellings.

Even if the division had been done correctly it would be very simplistic and would not have addressed all the variables such as: senior citizen units, single family dwellings, apartments, townhouses or dwellings by size, age, value or cost and income levels. This is assuming that 12,386 is from the 2000 census and is an accurate number of units in the district.

Second, is a letter report from Mr. Salvatore J. La Bruna, Chairman of the Town of Wallkill Conservation Commission. In the Commissions Findings under 1. Community Services, the Commission references the Urban Land Institute (ULI) as a source of the developers multiplier data for school children. ULI has been a reliable source for planners and municipalities as well as developers since the 1950's. It was their 1957 study that developed the basis for parking standards for shopping centers and residential developments used today nationwide. To refer to the website and who ULI provides information for and state it is not balanced is very misleading. It provides information for "leading property owners, investors, advisors, developers, architects, lawyers, lenders, planners, regulators, contactors, engineers, university professors, librarians, students and interns"; Who's missing? If that isn't balanced, nothing is!

Basically the ULI multipliers are similar to the Burchell, Listoken and Dolphin studies discussed above and similar studies of projects throughout the United States broken down by region.

Third, listed below are the multipliers from the Burchell and Listoken studies for the Mid-Atlantic States broken down in more detail from "The New Practioner's Guide." They are broken down by housing type and bedroom count.

Dwelling Type

Single Family

Grade	1 BR	2 BR.	3 BR.	4 BR.	5 BR.	All BR's
K-6	----	.103	.472	.803	.997	.532
7-9	----	.032	.133	.305	.493	.180
10-12	----	.030	.100	.220	.311	.135
Total	----	.165	.705	1.328	1.801	.847

Apartments

Grade	1 BR	2 BR.	3 BR.	4 BR.	5 BR.	All BR's
K-6	.012	.165	.490	----	----	.144
7-9	.005	.046	.216	----	----	.039
10-12.	.006	.036	.141	----	----	.032
Total	.023	.247	.847	----	----	.175

Townhouses

Grade	1 BR	2 BR.	3 BR.	4 BR.	5 BR.	All BR's
K-6	.020	.111	.315	----	----	.231
7-9	.013	.037	.120	----	----	.089
10-12.	.000	.020	.196	----	----	.063
Total	.033	.168	.531	----	----	.383

These are 25 year old figures and today's figures are likely to be slightly lower. Also, figures will vary based on house value or price. Thus, the larger more expensive or more exclusive units will tend to have fewer school children. This was borne out in studies I personally prepared in 1965, 1973 and 1986.

In summary and after reviewing the proposed project, and statistics for current area projects, I believe a multiplier of 0.26 to be realistic. To be conservative in the analysis a figure of from 0.30 to 0.35 could be used, but far exceeds what I would expect to occur for two reasons.

First, the new projects, and Golden Triangle in particular, will be upscale and more expensive than most projects currently in the Scotchtown area of Wallkill including Schutt Road. Secondly, they will be surrounded by highways and highway ramps which is not conducive to parents with younger children. Such a project would have great access to commuter service and would be more likely to attract empty nesters than young families.

We are aware of no townhouse condominium projects or multifamily developments, regardless of age, in Orange County with multipliers above 0.5 school children per unit. The few projects shown with multipliers of 0.41-0.46 are all older 1970-1980 projects, which, up until a few years ago were selling for $80-120,000. One of these in the applicants figures, Canterbury Knolls, is actually a detached three bedroom single family

development on smaller lots which is part of a home owners association. In terms of size they are similar to condominium townhouses.

Listed below, I have broken down the school children per unit and per bedroom for projects in the Town of Wallkill and the local school districts that I have personally review or rechecked. I find the following numbers for the current 2004-05 school year.

1. ***Pine Hollow Estates*** (Village of Chester) (Chester Schools)
   32 dwellings, 20 one bedroom, 12 two bedroom apartments 3 school children
   0.09 per dwelling/0.07 per bedroom

2. ***Cambridge Manor*** (Town of Wallkill) (Goshen Schools)
   80 dwellings, 56 one bedroom, 24 two bedroom apartments-12 school children
   0.15 per unit/0.12 per bedroom

3. ***Country Squire*** (Town of Wallkill) (Pine Bush Schools)
   52 dwellings, 29 one bedroom, 23 two bedroom apartments-15 school children
   0.29 per unit/0.20 per bedroom

4. ***Middletown Village*** (Town of Wallkill) (Middletown Schools)
   88 dwellings, 60 one bedroom, 28 two bedroom apartments-20 school children
   0.23 per unit/0.17 per bedroom

5. ***Water's Edge*** (Town of Wallkill) (Middletown Schools)
   94 units-two bedroom Townhouse/condominium-8 school children
   0.09 per unit/0.04 per bedroom

6. ***Canterbury Knolls*** (Town of Wallkill) (Middletown Schools)
   185 units-three bedroom single family detached dwellings-87 school children
   0.47 per unit, 0.16 per bedroom

7. ***Hillside Village*** (Town of Wallkill) (Goshen Schools)
   120 dwellings, 40 one bedroom, 80 two bedroom condominiums-49 students
   0.41 per unit/0.25 per bedroom

8. ***Lake Ridge Estates*** (Town of Wallkill) Middletown Schools)
   31 dwellings, 20 two bedroom, 11 three bedroom condominiums-5 students*
   0.16 per unit*/0.07 per bedroom*

***These numbers will increase as more units are built and the children age.**

The numbers above are based on information compiled from the Town of Wallkill Tax Assessors Office (2005), Enlarged City School District of Middletown, Mid-City Transit Office (2005), Goshen Central School District, Transportation Office (2005) and the Cambridge Manor rental office (2005).

We also reviewed data from other projects from Meadow Winds in Newburgh to projects in Westchester County and Monroe. Our office has first hand knowledge of the data from the Newburgh and Monroe projects and is able to confirm the accuracy of that data in particular. Much of the other available data was specifically requested by the Town of Newburgh Planning Board and reviewed relative to SEQRA submissions for the Brighton Green, Exeter and Orchard Hills condominium projects. Based on comparisons with comparable projects in Newburgh, New Windsor and Monroe the data was found to be acceptable and consistent.

Sincerely,

Edwin J. Garling, AICP
EJG:mm

GARLING ASSOCIATES

July 11, 2005

Gary Lake, Chairman
Town of Wallkill Planning Board
600 Route 211 East
PO Box 398
Middletown, New York 10940

RE: School Children Multipliers

Dear Mr.Lake:

On June 21, 2005 we submitted a report to the Planning Board in regard to public school aged children generated by various multifamily developments in the Town of Wallkill. We were requested to review this information by the applicant for the Golden Triangle project and submit a more formalized report.

Based on that request we reviewed our files and other projects to put together all figures obtained over the past year in regard to school children generation. Our prior report and the additional two page table of multipliers are provided for your use and perusal. We are prepared to discuss these numbers at your July 12th work session and at any public meetings. My analysis of this data is provided below.

Sources of Information

All data was developed at the request of the Planning Boards or the public during the review of projects before local Planning Boards in Orange County. Some data from outside the county is based on projects by developers who had built projects of a similar style in those communities. All data is based on tenant and owner roll information, school district transportation office interviews, school district personnel and professional planner and engineer staff review of subdivisions and assessment rolls. I personally reviewed, checked or gathered data on over one-third of these projects. Our office was involved in gathering or requesting data on all of the projects.

Personal discussions were conducted during the past few months with administrative staffs, principals and transportation personnel from the Goshen, Pine Bush and Minisink school districts.

Variations in Data

In reviewing the data you will note that some projects vary dramatically in the rates or multipliers. This is caused by a variety of factors including: location, cost of the units, landlord attitude about children in rentals, age of the unit and size of unit. The single family average multiplier is 0.76 or 76 public school age children per one hundred units while the number varies between 0.18 and 1.44. 0.18 or 18 per 100 is an upscale project in a wealthy Westchester town while 1.44 or 144 per 100 is a smaller much less expensive development in a rural Minisink school district attracting younger first home buyers with children.

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If a detailed analysis of a substantial number of units at various price and age brackets was developed such information would provide a much clearer picture of impacts of various projects.

Changes in Society

When I performed my most detailed analyses in the mid sixties to seventies we were in the midst of the "baby-boomers" born between 1946 and 1964. Thus, by 1951 to 1969 the baby boomers were peaking in school enrollments. This was shown in an analysis that I did for Surrey Meadows in 1969 and later in 1978. In 1969 there were as many public school aged children as preschoolers. By 1973 the school age children peaked and by 1978 it was beginning to go back to 1969 levels and dropping.

Beginning in the eighties, younger adults began to get married later in life, being single was no longer a social issue and women had a greater choice of professions. Now young singles are buying houses and condos as an investment. Adults are living together and/or are choosing not to have children.

In summary, upscale single family projects and townhouses are likely to pay their way with school taxes in some districts and not in others. With rising real estate values the impacts are becoming more positive. A detailed analysis will reveal that data.

Sincerely,

Edwin J. Garling

Edwin J. Garling, AICP
EJG:mm
enclosure

SCHOOL CHILDREN POPULATION MULTIPLIERS (cont)
2004-2005 SCHOOL YEAR

DWELLING TYPE:	SCHOOL DISTRICT:	PROJECT NAME:	MUNICIPALITY:	# OF DWELLINGS	# OF CHILDREN	CHILDREN PER DWELLING:
TH/Condo	Dobbs Ferry UFSD	Livingston Ridge	Dobbs Ferry	24	3	0.13
	Newburgh ECSD	Meadow Winds	Newburgh	167	40	0.24
	Monroe-Woodbury CSD	Woodbury Heights	Woodbury	116	22	0.19
					Multiplier:	0.19
TH/SF	Monroe-Woodbury CSD	Mansion Ridge	Monroe	80	10	0.13
					Multiplier:	0.13
Single Family	Greenburgh CSD	Clarewood Village	Greenburgh	85	16	0.18
	Minisink Valley CDS	Ridgebury Estates	Waywayanda	73	58	0.80
	Minisink Valley CDS	Dawn Drive	Waywayanda	36	52	1.44
	Minisink Valley CDS	Kings Lane	Waywayanda	23	22	0.96
	Minisink Valley CDS	Laurel Hill	Waywayanda	21	11	0.52
	Minisink Valley CDS	Heselton	Waywayanda	25	22	0.88
	Minisink Valley CDS	Breeze Hill Estates	Waywayanda	27	21	0.78
	Minisink Valley CDS	Robinn Meadows	Waywayanda	123	105	0.85
	Middletown ECSD	Canterbury Knolls	Wallkill	185	87	0.47
					Multiplier:	0.76
					Total Multiplier:	0.32

SCHOOL CHILDREN POPULATION MULTIPLIERS
2004-2005 SCHOOL YEAR

DWELLING TYPE:	SCHOOL DISTRICT:	PROJECT NAME:	MUNICIPALITY:	# OF DWELLINGS	# OF CHILDREN	CHILDREN PER DWELLING:
Apartment	Chester CSD	Pine Hollow Estates	Chester	32	3	0.09
	Goshen CSD	Cambridge Manor	Wallkill	32	3	0.09
	Pine Bush CSD	Country Squire	Wallkill	52	15	0.29
	Middletown ECSD	Middletown Village	Wallkill	88	20	0.23
					Multiplier:	0.18
Townhouse	Hastings-on-Hudson CSD	Riverpointe Townhomes	Hastings	15	1	0.07
	Monroe-Woodbury CSD	Hidden Creek	Monroe	153	22	0.14
	Monroe-Woodbury CSD	Timber Hills	Monroe	168	35	0.21
					Multiplier:	0.14
Condo	Monroe-Woodbury CSD	Lexington Hills	Harriman	336	74	0.22
	Highland Falls CSD	Corbin Hill	Fort Montgomery	48	3	0.06
	Greenburgh CSD	Clarewood Club Condos	Greenburgh	40	4	0.10
	Goshen CSD	Hillside Village	Wallkill	120	49	0.41
	Middletown ECSD	Water's Edge	Wallkill	94	8	0.09
	Middletown ECSD	Lake Ridge Estates	Wallkill	31	5	0.16
					Multiplier:	0.17

Representative School Age Child Multipliers

School Age Child Population Living in Surveyed Projects				
Project Name	**Location**	**Number of Units**	**Total Number of Students**	**Demographic Multiplier** (students per unit)
Surveyed Projects in Wallkill Source: Tim Miller Associates, Inc., 2005				
Waters Edge	Town of Wallkill	94 2BR townhouses	8	0.09
Lake Ridge Estates	Town of Wallkill	20 2BR, 11 3BR townhouses	5	0.16
Hillside Village	Town of Wallkill	40 1 BR, 80 2 BR townhouses	49	0.41
Surveyed Projects in Orange County Source: Tim Miller Associates, Inc., 2005				
Timber Hills	Town of Monroe	168 condominiums	35	0.21
Pine Ridge	Town of Monroe	78 condominiums	33	0.42
Mansion Ridge	Town of Monroe	80 condominiums	10	0.13
Lexington Hills	Village of Harriman	336 condominiums	75	0.22
Woodbury Heights	Town of Woodbury	116 condominiums	22	0.19
Meadow Winds	Town of Newburgh	167 condominiums	40	0.24
Parr Valley	Town of Newburgh	292 condominiums	61	0.21
Surveyed Projects in Westchester County Source: RH Consulting, 2003				
Clarewood Village	Town of Greenburgh	85 2BR townhouses	16	0.19
Clarewood Club	Town of Greenburgh	36 1BR, 2 2BR condominiums	4	0.11
Riverpointe	Village of Hastings	15 4BR townhouses	1	0.07
Hastings Landing	Village of Hastings	23 3BR townhouses	5	0.22
Livingston Ridge	Village of Dobbs Ferry	24 3BR townhouses	3	0.13
Marble Heights	Town of Mount Pleasant	24 3BR townhouses	11	0.46
Surveyed Projects in Westchester County Area Source: Marcon Realty, 2003				
Wyldwood	Town of Tarrytown	34 2BR, 55 3BR condominiums	14	0.16
Scarborough Glen	Village of Briarcliff Manor	20 2BR, 66 3BR condominiums	18	0.21
Chapel Hill	City of Peeksill	25 2BR, 72 3BR condominiums	11	0.11
Crystal Hill	Town of Pomona	144 2BR condominiums	33	0.23
Woodland Hills	City of Danbury CT	20 2BR, 67 3BR condominiums	23	0.26

APPENDIX G

Revised Phase 1A
Archaeological Report

Nussbaum Property

Phase 1A Literature Review and Sensitivity Analysis
&
Phase 1B Archaeological Field Reconnaissance Survey

Route 17M (Chester Road)
Town and Village of Chester, Orange County New York

Prepared for:

Tim Miller Associates, Inc.
10 North Street
Cold Spring, New York 10516

By:

CITY/SCAPE: Cultural Resource Consultants
166 Hillair Circle
White Plains NY 10605

Revised October 2008 & September 2010
August 2008

NUSSBAUM PROPERTY

Route 17M (Chester Road)
Town and Village of Chester, Orange County, New York

TABLE OF CONTENTS

Management Summary

SHPO Project Review Number (if available): N/A

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc): DEC

Phase of Survey: **Phase 1A Literature Review & Sensitivity Analysis and Phase 1B Archaeological Field Reconnaissance Survey**

Location Information:

Location: **Route 17M (Chester Road)**

Minor Civil Division: **Town and Village of** Chester

County: **Orange**

Survey Area (Metric & English)

Length: **758.4 m (2487.7')**

Width: **534.2 m (1752.5')**

Depth (when appropriate):

Number of Acres Surveyed: **26.15 Hectares (±64.557 acres)**

Number of Square Meters & Feet Excavated (Phase II, Phase III only): **N/A**

Percentage of the Site Excavated (Phase II, Phase III only):

USGS 7.5 Minute Quadrangle Map: **Warwick Lake**

Archaeological Survey Overview

Number & Interval of Shovel Tests: **920 @ 50' (15 m) and 25' (7.5 m)**

Number & Size of Units: N/A

Width of Plowed Strips: N/A

Surface Survey Transect Interval: N/A

Results of Archaeological Survey

Number & name of prehistoric sites identified: 0

Number & name of historic sites identified: 0

Number & name of sites recommended for Phase II/Avoidance: N/A

Results of Architectural Survey

Number of buildings/structures/cemeteries within project area: **0**

Number of buildings/structures/cemeteries adjacent to project area: 0

Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: N/A

Number of identified eligible buildings/structures/cemeteries/districts: N/A

Report Author (s): **Stephanie Roberg-Lopez M.A., R.P.A. Gail T. Guillet and Beth Selig**

Date of Report: **August 2008** revised September 2010

NUSSBAUM PROPERTY

Route 17M (Brookside Avenue)

Town of Chester. Orange County, New York

Introduction

The following report presents the results of a Phase 1A Literature Review and Sensitivity Analysis prepared for Tim Miller Associates, Inc. by CITY/SCAPE: Cultural Resource Consultants. The property, containing ±64.557 acres, is located on the east side of Route 17M (Chester Road) a short distance north of the Route 17M-Route 94 intersection in the Town and Village of Chester. (Map 1 & 2) The bulk of the site is located in the Town of Chester, but a small triangular piece falls within the bounds of the Village of Chester. Maps provided indicate that the land slopes upward toward the north, rising approximately 100 feet to a high point of 600 feet above mean sea level (AMSL). The property contains a wetland of ±4 acres that to drain south into Otter Kill, a tributary of the Wallkill River. The current conditions map indicates that there are several areas of relatively steep slope, and the accompanying soils map indicates that there are areas on the site that exceed 25% in slope.

The project area adjoins commercial and residential development in the Village of Chester, to the south and east, but is adjacent to an active farm on the northwestern boundary. (Photo 2) At the present time the project area is open fields, some of which have been or are being cultivated, woodland, wetland, and areas, particularly in the extreme southeast corner near the Chester Mall, that are reverting to scrub (old field succession). (Photo 1 & 5-6) At present no structures are located within the project area, but the aerial photograph of the site suggests that a portion, specifically the area of Otisville and Hoosic soil complex (OVE), has been mined for sand and gravel.

The Phase 1A work was performed in accordance with the requirements of the State Environmental Quality Review Act (SEQRA) 6NYCRR, part 617 of the New York State Environmental Conservation Law and to meet the standards of the New York Archaeological Council (1994), as well as relevant federal standards (36 CFR 61). The report was necessitated by the need for a New York State Department of Environmental Conservation permit.

Project Area Information

The project area, containing ±64.557 acres, of which ±4 acres is wetland, is located on the east side of Route 17M a short distance north of the Route 17M-Route 94 intersection in the Town and Village of Chester. As noted, the bulk of the site is located in the Town of Chester, but a small triangular piece falls within the bounds of the Village of Chester. Maps provided indicate that the land slopes upward toward the north, rising approximately 100 feet from 500 feet (152.4 m) above mean sea level (AMSL) to a high point of 600 feet (182.88 m) AMSL. The wetland on the site drains to the south. The current conditions map indicates that there are several areas of relatively steep slope, and the accompanying soils map indicates that there are areas on the site that exceed 25% in slope; however, the on-site inspection indicated that a large percentage of the site is either under cultivation or has only been recently abandoned. The project area encompasses two tax parcels: Tax Parcel 2-1-39, located entirely in the Town of Chester, and Tax Parcel 107-3-4 in the Village of Chester. (Fig. 1) The parcel located in the Village is limited to a triangular piece of land sandwiched between the Chester Mall and the houses on the north side of Carpenter Road.

For the purposes of the Phase 1A Literature Review and Sensitivity Analysis, the area of potential effect (APE) is considered the entire property, excepting the wetland areas, the 100 foot (30.48 m) setback from wetlands maintained by Orange County, and the area that has been mined for sand and gravel.

Environmental Conditions

As has been noted, the site has elevations that rise from approximately 500 feet (152.4 m) AMSL to 600 feet (182.88m) AMSL, with some areas contain steep slopes. Soil conditions on the site range from poorly drained (Ma) to excessively drained (OVE), however, most of the soils on the site are suitable for agriculture and would have been suitable for prehistoric occupation. The excessively drained soil complex, Otisville and Hoosic (OVE), is composed of sand and gravel derived from glacial outwash deposits, while the poorly drained area, Madalin silt loam (Ma), is derived from glacial lake deposits. The balance of the soils on the site are moderately well drains soils derived from glacial till deposits (MdB-D & ErB). (Fig. 2) Although there is a wetland on the site, the project area is not crossed by any streams, but is located uphill from the Otterkill, a tributary of the Wallkill River. Although it was not observed in the walkover of the site, it is reported that there was formerly a spring on the site (Personal communication, Mr. Talmadge, May 2006). The wetland on the property may be associated with this spring.

The site is geologically part of the Ridge and Valley Province, but is more specifically located in the Hudson Mohawk Lowlands region of New York State. The project area is located in the Wallkill Valley, a broad valley drained by the Wallkill River, which is situated approximately 7 miles (11.2 km) west of the Village of Chester. Geologically, the Nussbaum property is located in an area of sedimentary rock, composed of shale, siltstone and sandstone, that has been covered by glacial till (Schuberth, 1968:16-17). The underlying rock is of Ordovician age.

The soils on the site have been described above, but are identified in detail in Appendix C, which includes the soil descriptions from the *Soil Survey of Orange County* (USDA 1994).

Vegetation on the site includes primarily open farm fields that have been or are now being cultivated for corn and hay. (Photo 3 & 5-6) At the time of the site visit, the higher portions of the site had not yet been planted, but a local informant told us that the farmer who has used the land for many years would soon plant it with corn (Personal communication, Mr. Talmadge, May 2006). A small portion of the site, limited principally to the small parcel in the Village of Chester, has plants associated with the early stages of "old field succession," including the small trees and shrubs. Wetland vegetation was observed in the west central portion of the site. The steeper slopes on the site are tree covered by species associated with the transitional area between the Appalachian Oak Forest Zone and the Northern Hardwood Forest Zone. In the Northern Hardwood Forest Zone, sugar maple, birch, beech and hemlock are the predominant trees in this type of forest (Küchler 1964). In the Appalachian Oak Forest Zone, tall, broad-leaved deciduous trees predominate, particularly Red Oak and White Oak.

Potential for Site to Contain Prehistoric or Historic Cultural Resources

As part of the initial research for the Phase 1A Literature Review, CITY/SCAPE: Cultural Resource Consultants examined the archaeological site maps housed at Peebles Island. These files indicate that no prehistoric sites have been identified within the project area or adjacent to it; however, a prehistoric village site has been reported within a 1 mile (1.6 km) radius of the project area (OPRHP A071.51.004). The site, identified in 1983

during a survey for an apartment complex, yielded an end scraper, two chert flakes, and a fragment of Normanskill chert (Dumont & Dumont 1983). The site was located at an elevation of 500' (152.4 m) AMSL, at the same elevation and in similar environmental conditions as those found within the lower portion of the project area. Some years earlier, a survey for the Chester Sewer System, identified a prehistoric camp site less than a ¼ mile (0.4 km) northeast of the project area (Mead 1977). In the same time period, a small site was identified north of Meadow Avenue that yielded debitage and a chert knife (Dumont 1979). More recently, a small flake scatter was identified on a hill north of Meadow Avenue overlooking the Greycourt black dirt area (Oberon 2004).

Not included in the archaeological site files at Peebles Island is a prehistoric site, supposed to date to the Woodland period, that was reported to us during the site visit. That site is located in a protected environment immediately to the northwest of the project area on the Otter Kill (Personal communication, Mr. Talmadge, May 2006). Among the artifacts reportedly recovered was a mortar and pestle. Mr. Talmadge also showed Kris Mierisch and Gail T. Guillet prehistoric and historic artifacts that he stated had been recovered from the project area. At the same time, Kris Mierish and Gail T. Guillet were informed by Mr. Talmadge that the highest point on the project area had been examined by avocational archaeologists interested in Revolutionary War site, and that an encampment area had been identified. This will be discussed in more detail below.

The OPRHP reported prehistoric sites are presented below in tabular form:

NYSM Site	**OPRHP Site**	**Distance from APE Ft (m)**	**Time Period**	**Site Type**
	A071-51-0004	<5,280'/1609 m	Woodland	Village site
	A071-51-0013	<1320'/402.3 m	Unknown	Campsite
	A071-02-0064	<2640'/804.67 m	Unknown	Campsite
		<5,280'/1609 m	Unknown	Flake scatter

The presence of reported prehistoric resources within a mile (5,280'/1609 m) of the project area in topography similar to that found within the project area indicates that the Nussbaum property has the potential to contain prehistoric resources; however, prehistoric resources reportedly recovered on and adjacent to the site raises the potential of the project area to high. This assessment is based on the following:

- the reported presence of prehistoric material recovered from the project area itself;
- a prehistoric site identified on adjacent property in environmental conditions considered extremely favorable (a protected location on the Otter Kill);
- the nearby presence of the Otter Kill, a known locus of prehistoric activity;
- the elevation of the site, which would have provided a lookout for game or the approach of groups of people
- the lower elevations on the site, at which prehistoric material has been recovered nearby;
- the reported spring on the property that could have provided potable water;

- and the presence of a wetland on the site that would have served as a magnet for prehistoric peoples.

We would expect prehistoric sites, if any, to be located on the more level portions of the property or on the high knoll, which could have provided, as it does today, a broad outlook over the surrounding landscape. (Photo 3 & 6)

In addition to the prehistoric resources, there are reported historic resources located within a mile (1.6 km) of the project area, but, with the exception of the Talmadge farm, distance and topography will provide protection from impacts by the proposed project. The Talmadge farm, which has been identified by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) as eligible for listing on the National Register of Historic Places, is located immediately to the northwest of the project area. While the Talmadge farm will not experience physically impacts associated with the proposed project, it is possible, due to the fact that a portion of the project area is situated on a hill overlooking the Talmadge property, that it may experience visual impacts. These impacts could be mitigated, at least in part, through screening with evergreens.

History of the Site

The material presented below is not intended to be an exhaustive examination of the history of the site, but is, rather, an exercise to locate and identify structures either on or adjacent to the project area that may be of historic significance. For this purpose, a group of historic maps available at the State Museum in Albany and at the Orange County Historical Society have provided the basis for the discussion.

The Town of Chester was originally a part of the Wawayanda Patent, granted in 1703; this patent is also referred to as the John Bridges and Company Patent. Until 1845, the Town of Chester was part of the Town of Goshen, but population increases led to the erection of the Town of Chester in that year. The earliest area of settlement in the Town of Chester was at Grey Court, now within the Village of Chester limits, where Daniel Cromline established his family in 1716. Settlement was initially sparse, with groups of houses being built at crossroads or where water was available to power mills. Farmers built their homes along the highways that provided access to the small settlements, of which Chester is an example. Chester was originally one of a group of small hamlet areas, including West Chester and East Chester, that grew in importance with the construction of the Erie Railroad in the second half of the 19th century. At the time of the Civil War, the portion of the Great Swamp located east of Chester was drained, increasing agricultural production of such crops as celery and onions, products not previously available in the area. These products, along with milk and cheese, were shipped by rail to New York City.

Although for some areas earlier maps exist that include the project area, they do not, in most cases, identify individual structures or provide the names of landowners. From the mid-19th century onward we have several maps that include the project area and the land around it, but it is not until Beers' 1875 *County Atlas of Ulster, New York*, that the owner of the property can be clearly identified. (Map 3) At the time it appears that the land was owned by the Hughes family. The Otter Kill crossed their property, flowing south to power a grist mill, saw mill, and a plaster mill. There were several houses clustered around the mills, including ones occupied by A. B. Seeley, F. B. Seeley, C. D. House and the C. B. Wood family. In 1881, the area was known as West Chester, which was described in Ruttenber's *History of Orange County* as "a small hamlet, distinct from the other villages sufficient to have a separate name. (Ruttenber 1881:616). At that time West Chester had the W. A. Lawrence creamery and cheese factory, a tailor shop that was combined with "something of a grocery-store", the Seeley grist and saw mill, formerly

known as the Daniel Denton mill, and a large wholesale business operated by Frank J. Murray that prepared veal for the New York market (Ruttenber 1881:616). A second distinct hamlet area, called East Chester, was located at the intersection of Route 17M and Route 94. Both West Chester and East Chester had sufficient population to warrant a post office; at East Cheater there was a railroad depot for the Warwick Valley Railroad, which intersected the Erie line at Grey Court, a blacksmith shop, and a wagon shop. Three other hamlet areas, now combined to form the Village of Chester, were Chester, at the intersection of Academy Street (Route 94) and Main Street, and another hamlet area referred to as "the village at the depot" (Ruttenber 1881:616). The portion of the village at the intersection of Academy Street and Main Street was the original village, which is said to have grown up on the Yelverton estate, but was in 1881 identified as the location of the store operated by Joseph Durland (Ruttenber 1881:616). It was about a mile from the Erie depot, the "village at the depot," which also had a post office, but also had a hotel, numerous shops, manufacturing operations, including a carriage manufactory, several blacksmiths, and an onion dealer. The onion dealer is mentioned, because it was one of the new crops being grown for the New York market on the former swamp land between Chester and Gray Court. The shipment of these new crops, as well as meat, milk and cheese, was facilitated by the construction of the railroads, several of which intersected at Gray Court.

In 1903 Lathrop published a map of the Town of Chester that provides a good deal of information; by this date the roads were identified by name, and the farms had names such as "Brook View Farm." (Map 4) In 1903 the project area was owned by W. J. Lawrence, who then owned 150 acres. The house was located on the east side of the Chester and Goshen State Road (Route 17M). (Photo 4) The farm immediately to the north was "Maple Hurst Dairy," which was owned by J. Seeley Durland, and contained 125 acres. These two farms are shown as a joint operation. The project area, easily identified by the Village of Chester boundary line, was farmland, with no structures of any kind on the site.

South of the farmland, on the west side of the highway inside the Village of Chester boundary, which now encompassed West Chester and East Chester, as well as Chester Station, was the Lawrence & Durland creamery, with its mill pond. Much of the milk supplying the creamery and cream cheese factory would have come from the Lawrence and Durland farms, but, in order to meet production, it must have also been supplied by other farms in the area. The relationship between the Lawrence family, formerly owners of the project area, and the creamery is of interest, because it was William J. Lawrence, who in 1872 developed a cheese combining cream and milk that became known, first as Lawrence & Durland Cow-Brand Neufchatel Star Brand Cream Cheese, and later as Philadelphia Cream Cheese (Eugene Wright 1981). Soon, according to Wright, demand outstripped production and additional people were hired in the W. A. Lawrence & S. S. Durland cheese factory. By 1880 a New York cheese distributor contracted with the company to supply him with cream cheese that became known as "Philadelphia" cream cheese, the name "Philadelphia" being associated with quality products. The Lawrence-Durland family's cheese factory was eventually sold, after which production ceased in Chester, and the operation was moved to South Edmeston, New York. At a later date, the cream cheese business was purchased by Kraft, Inc., which still produces "Philadelphia" cream cheese (Kraft, Inc. Publicity Dept. nd). At the time of our site visit, Mr. Talmadge related much of this history to Kris Mierisch and Gail T. Guillet (Personal communication, Mr. Talmadge, May 2006).

The USGS topo map for 1908 shows East Chester and Chester, but West Chester had fallen into decline and was no longer regarded as a separate hamlet area. (Map 5) The Village of Chester boundary is included on the map, allowing easy identification of the project area, which was still vacant farmland.

In summary, the project area appears on maps dating from 1875 to 1908, but at no time is there an indication that it was other than farmland. In the early 20th century the project area was part of the "Brook View Farm", then owned by the Lawrence family. At some point between 1903 and the present, the land was sold, but it was still used to grow crops by relatives of the Lawrence family and others (Personal communication, Mr. Talmadge, May 2006). Historic map research indicates that no structures were located within the project area.

At the time of the site visit, Gail T. Guillet and Kris Mierisch met with Mr. Talmadge, a Lawrence descendent and current owner of "Brookview Farm", who provided us with information that suggested that the project area may have been the location of a military encampment dating to the period of the Revolutionary War. According to Mr. Talmadge, some years ago avocational archaeologists explored the project area using metal detectors. The survey yielded metal materials that reportedly dated to the 18th century, when the military camp occupied the high point on the Nussbaum property (Personal communication, Mr. Talmadge, May 2006). (Photo 5) Based on their survey, the avocational archaeologists described the camp as two lines of tents oriented generally south-north on the high point of the property, from which it is still possible to see a great distance to the south, southeast and northeast. Mr. Talmadge showed us some of the material that he had been given by the team, but, based on our examination, it was not possible for us to confirm the date. Some of the material struck us as more recent, but still of historic interest. In addition to Mr. Talmadge's information, we observed an historic plaque in the village (on Hamiltonian Avenue) reporting a military encampment. The inference is that the encampment was located in the immediate vicinity of the plaque, but, while not specific, the plaque is located at the east side of the hill on which the project area is situated. Rutterber's *History of Orange County, New York*, reports that in 1776 two regiments, one from Ulster and one from Orange, were ordered to assemble at Chester, where they were to receive further orders from General George Clinton (Rutterber 1881:55). The material presented here does not constitute proof that the remains of a Revolutionary War encampment is located within the project area, nor did our inspection of the area, in the company of Mr. Talmadge, provide evidence of such an encampment. However, given the information provided by Mr. Talmadge, it will be necessary to consider the possibility that historic cultural resources dating to the Revolutionary War period may be found on the project area.

Additional Research Undertaken

As part of our research, surveys conducted in the vicinity of the project area were examined. One survey by the New York State Museum was completed in 1993 at the intersection of Route 17M and Route 94 in the Village of Chester (NYSM 1993). No prehistoric material was recovered in the survey, but a number of map documented structures (MDS) were identified and inventoried. In each case it was determined that the locations had been disturbed by road or commercial construction (NYSM 1993:59). In 2002, Tracker Archaeology Services, Inc. prepared Phase I and II Archaeological Investigations at the Townsend Homestead, Village of Chester, Town of Chester, Orange County, New York (Tracker 2002). Evaluation of the Townsend Homestead (OPRHP A07151.000053) determined that it was not eligible for National Register listing (Tracker 2002:Abstract). No prehistoric cultural material was recovered in this survey. The final report examined was prepared by Columbia Heritage, Ltd. in 2004. The Phase 1 Cultural Resources Survey, Site Assessment and Site Identification Phases for the proposed Meadow Hill Subdivision identified a lithic scatter on the site, which overlooks the black dirt area south of the Village of Chester (Oberon 2004: 13). It also identified the King House and associated foundations as historic resources that required further evaluation (Oberon 2004:14).

Sensitivity Assessment and Site Prediction

Professional surveys, the work of avocational archaeologists, and unreported resources identified in the Town of Chester indicate the presence of prehistoric sites on or adjacent to the project area. One unreported prehistoric site, located on the adjacent farm, reportedly yielded a mortar and pestle, as well as other prehistoric cultural material (Personal communication, Mr. Talmadge, May 2006). Although the site visit did not identify prehistoric material within the project area, it was reported by Mr. Talmadge that material has been recovered from the site, and he showed us a small collection of chert debitage and possible tools that he stated had come from the Nussbaum property. Based on this information, which must be considered anecdotal until a professional survey has been undertaken, it is judged that the project area has a high potential to contain prehistoric cultural material. The reported location where the prehistoric material was recovered was the highest point on the site, which could have provided extensive views of the surrounding countryside. (Photo 3 & 6) It is possible that the more level areas at a lower elevation may also have been utilized.

The map research indicated that no structures dating to the 19th and 20th century were located within the project area; however, Mr. Talmadge reported that avocational archaeologists had identified a Revolutionary War encampment at the high point on the site. This was reported to consist of two lines of tents oriented generally south-north. Mr. Talmadge showed Gail T. Guillet and Kris Mierisch material said to have been recovered from the site, but, as noted above, it was not possible to provide a positive date for the material examined. However, in view of the statements made by Mr. Talmadge, admittedly anecdotal in nature, the possibility that the project area contains historic cultural resources dating to the Revolutionary War must be considered.

There are a number of reported historic resources located adjacent to or in the vicinity of the proposed project. Among them is the Talmadge farm, which has been evaluated by OPRHP and determined to be eligible for listing on the National Register of Historic Places. As stated above, the Talmadge farm will not be physically impacted by the proposed project, but it is possible that the higher areas of the site could have a visual impact on the Talmadge farm. Mitigation of these impacts might be achieved through building placement and screening with evergreens. Due to topography and distance, none of the other historic resources will be impacted by the proposed project.

Recommendations for Further Work

Based on the archaeological and historical research, it is concluded that the Nussbaum property contains a high potential to contain prehistoric cultural resources. This assessment is based on environmental factors, but also on information received from a local informant, which indicates a prehistoric site on the adjacent farm and the recovery of prehistoric resources within the project area. It is also considered possible, also based on information provided by the same informant, that the property has the potential to contain historic cultural material dating to the Revolutionary War period. It is, therefore, recommended that a Phase 1B Archaeological Field Reconnaissance Survey be conducted to rule out the presence of prehistoric and/or historic sites. While the Phase 1A Literature Review and Sensitivity Analysis included the entirety of the project area, the Phase 1B will be limited to those areas on the site that will be impacted by the proposed project.

PHASE 1B ARCHAEOLOGICAL FIELD RECONNAISSANCE SURVEY

Phase 1B Introduction

On July 17 to July 21, 2008, CITY/SCAPE: Cultural Resource Consultants completed a field reconnaissance level archaeological survey of the Nussbaum property in the Village and Town of Chester, Orange County, New York. (Map 1 & 2)

Archaeological fieldwork was supervised by Stephanie Roberg-Lopez, M.A., R.P.A., Principal Investigator. Samantha Browne was the crew chief. Field technicians included Jeanette LeClair, Tom Wilson, Miguel Rodriguez, Stephanie Grunberg and Jessica Horn. The final report was completed by Beth Selig, Gail T. Guillet, and Stephanie Roberg-Lopez. Site photography was completed by Gail T. Guillet and Samantha Browne. The preparation of the Field Reconnaissance Map, shovel test records and final production of the report was completed by Beth Selig.

The Phase 1B field survey was performed in accordance with the requirements of the State Environmental Quality Review Act (SEQRA) 6NYCRR, part 617 of the New York State Environmental Conservation Law and to meet the standards of the New York Archaeological Council (1994), as well as relevant federal standards (36 CFR 61). The report was necessitated by the need for a New York State Department of Environmental Conservation permit.

Phase 1A Information

The proposed project description, environmental information, and archaeological sensitivity assessment are included in the Phase 1A report that is bound with this report.

Methodology

Results of the Phase 1A confirmed that the site is located in an area of prehistoric activity, and that the landscape closely conforms to an ecological model that indicates that the more level, undisturbed portions of the project area are highly sensitive for prehistoric cultural materials. In addition, local residents report that prehistoric material has been found on a neighboring farm. Prehistoric sites have been indentified within the Town of Chester in areas containing similar topography, as well as in areas with similar environmental conditions as those on the Nussbaum property.

The Phase 1A also concluded that the Nussbaum property possessed a high probability to yield historic cultural remains, based on the report of avocational archaeologists and local residents, who reported Revolutionary War era findings on the high point within the project area boundaries. Mr. Ted Talmadge, a local resident, has proposed, based on field research that included the use of metal detectors, that there were two rows of tents aligned north to south along this high point within the western central portion of the project area. (Personal Communication, Clifton Patrick, August 1, 2008). Samantha Browne, the onsite crew chief, was shown a series of musket balls, a small cannon ball (slightly smaller than a standard tennis ball), pipe stems, buckles, metal weights, a shoe piece, and

unidentified buttons that were reported to have been recovered within the Nussbaum property. It would be possible to date the buttons, depending on their condition; however, these items remain as the property of Mr. Talmadge and were not made available for further analysis. As a result, additional research beyond the scope of the Phase 1A Literature Review, and close interval shovel testing was undertaken as part Phase 1B Field Reconnaissance Survey.

Areas selected for subsurface testing were identified during a comprehensive walkover of the property, which served to evaluate the site, assess loci of disturbance, rule out slope, assess available raw material and habitation resources, and determine former land usage.

The areas selected for shovel testing were subjected to tests at intervals of 50' (15.24 m) along transects conforming to the land surface. The location of the reported Revolutionary War encampment was subjected to additional shovel tests at a 25' (7.5 m) interval. A determination concerning the sensitivity of the various areas was based on environmental factors, topography, known activity patterns of prehistoric populations, and the purported location of the historic site. Areas in excess of 12% slope, except for the location of rock outcrops, were eliminated from testing, as were areas of prior disturbance. The locations of the tests and disturbed areas were recorded on a large-scale map that shows surveyed borders and the locations of the various structures identified on the site. (Figure 3: Field Reconnaissance Map)

Additional Research

As a result of a discussion with Clifton Patrick, the Town of Chester Historian, and reports by local residents of finding Revolutionary War artifacts on the Nussbaum property, CITY/SCAPE: Cultural Resource Consultants undertook additional research in an effort to determine the likelihood that a Revolutionary War camp existed within the project area. In addition to his comments concerning the camp, Clifton Patrick, Town Historian for Chester, reported that George Washington had stayed in the Village of Chester at the Yelvertown Inn during the month of July, 1782. Our research, which included examining records of the Library of Congress, indicates that during this time Washington was traveling with Major Walker, Colonel Lumbachs and Evans (no first name or rank indicated). The record indicates that during Washington's trip south from Newburgh, New York to meet Counte de Rochambeau, General of the French Army, money was expended to acquire provisions in the Town of Bethlehem, northeast of the Village of Goshen (Library of Congress, American Memory Digital Collection). There is, however, no indication of where the men stayed; it is, however, possible that information confirming his stay may be contained in the Yelvertown Inn registry.

The Continental Army had marched south in the fall of 1781 on its way to Yorktown, Virginia and the Battle of Yorktown. The route the army has been fully documented, and we know that the army crossed the Hudson River at Verplank's Point to Haverstraw, marching south through Rockland County into New Jersey (www.w3r-us-org). The French troops crossed the Hudson River at Verplank's Point at the same time, following the same route . South of the border of New Jersey, the allied forces marched south along the eastern portion of New Jersey (Selig 2007). The documentary evidence indicates that no part of the route taken by the Continental Army, which had about 2500 men, or the French troops, having approximately 4000, ran through the Orange County.

In addition to reviewing the literature housed at the Library of Congress, CITY/SCAPE: Cultural Resource Consultants reviewed the maps available at the New York Public Library that pertain to the Revolutionary War era. The 1776 Sauthier map entitled *A map of the Province of New-York, reduc'd from the large drawig of that Province*

etc., (Map 6)does not include the Village or Town of Chester. The 1779 Erskine map, *Map of Orange and Rockland counties area of New York Copied from surveys laid down by R. Erskine, F.R.S.*, (Map 7) does include Chester, but does not indicate any type of military fortifications or camps in the area. Another map, available at the Library of Congress is entitled *A map containing part of the Provinces of New York and New Jersey, drawn from surveys compiled by Thomas Millidge, major 1st Battalion, New Jersey Volunteers, 1780. This map is drawn for Oliver Delancey, Esquire, adjutant general of N: America & major of the 17th Light Dragoons, by Andrew Skinner, 1781.* (Map 8) This map shows a small cluster of structures within the Village of Chester, but does not indicate any militia, allied forces or divisions of the Continental Army being in the vicinity. Additionally, a map found on the W3R website (www.w3r-us-org), entitled *Rochambeau March* (also available at www.Rutgers.edu), indicates that the French and American troops remained south of Orange County during their march to and from the Battle of Yorktown, Virginia.

The map research, as described above, makes it appear unlikely that the materials collected by the residents of the Village of Chester are from a Revolutionary War encampment located on the Nussbaum property. The explanation for the reported recovery of such material from the Nussbaum property is not clear, but one hypothesis is that the Revolutionary artifacts were discarded or lost by members of the Continental army as they made their way home after the cessation of hostilities and the dissolution of the Continental army in the Spring of 1783. Another explanation may be that the artifacts do not date to the Revolutionary War era, but to some other period; an examination of the materials by an historical archaeologist might resolve this question, but to date no such examination has been completed.

Research completed by CITY/SCAPE: Cultural Resource Consultants indicates that there appears to be no documentary or cartographical evidence that the Revolutionary War army passed through or camped in the Village of Chester. A hypothesis concerning the reported recovery of Revolutionary War and Civil War artifacts on the Nussbaum property has been offered above, specifically that troops returned to the area after the dissolution of the Continental army discarded or lost the items, but, without supporting evidence, it is not possible to comment further

Field Methodology

Field Methodology employed at the Nussbaum property site consisted of several stages of investigation. These included:

1. A walkover and visual inspection of the site to assess areas of potential sensitivity for prehistoric and/or historic cultural remains.

2. The excavation of a control shovel test to establish the stratigraphy of the site and to identify the depth and composition of the sterile glacially deposited sub soils.

3. Systematic visual inspection of the land surface to rule out the presence of rock faces and overhangs.

4. Shovel testing in the areas identified as having a potential sensitivity for prehistoric and/or historic remains.

5. Photographic documentation of the overall site.

The methodology for shovel testing in the sensitive areas involved excavating 40 cm (16") diameter shovel tests at 50' (15.24 m) intervals. In the area identified by the Clifford Patrick, Town of Chester Historian, and Mr. Talmadge, adjacent landowner, as the site of the Revolutionary War encampment, shovel tests were placed in a 25' (7.5m) grid. Soils were passed through a ¼ inch (6 mm) steel mesh screen, and the material remaining in the screens was carefully examined for historic and prehistoric artifacts. Items recovered from the screens were assigned to the stratum from which they were obtained. The stratigraphy of each test was recorded, including the depth and the soil description of each layer. (See Appendix D) All cultural materials recovered was bagged, labeled, and returned to the laboratory for processing.

Field Results

Once a testing strategy had been established and areas unsuitable for testing were eliminated from the survey, potentially sensitive areas were systematically shovel tested. The areas subjected to shovel testing represent the flat and well drained areas within the project area. As previously stated, all areas of slope exceeding 12% were eliminated from testing. The wet area located in the southern and eastern portions of the site was reported by local residents to be the result of road construction and the subsequent impounding of groundwater. For this reason, in the southern portions of the site the established 100' (30 m) buffer was not observed. (Fig 3: Field Reconnaissance Map)

Testing commenced in the northwestern portion of the Area of Potential Effect (APE), considered in this case to be the entirety of the property. Transects 1 through 19, aligned northeast to southwest, began in the northwestern corner of the site and continued south to the steep slopes located in the central portion of the project area. (Photo 9-8) These slopes rise from the southern portion of the site at a grade greater than 12%. Transect 1 was located along the northern boundary of the project area. Transects progressed to the southeast, terminating along the eastern property boundary. Transects 1 through 19, with a total of 374 shovel tests, were located in this area. No cultural material of any kind was recovered from any of these shovel tests. (Appendix D: Shovel Tests Records) The soils encountered within this area consisted of a dark brown silt loam overlying a yellowish brown silty clay.

Along the northeastern project boundary, along Transect 2 between STP 21 and STP 22, a small surface dump was identified. (Photo 7) This dump consisted mainly of rusted milk cans and pails. This portion of the site is adjacent to a dairy farm. A surface collection of this dump (Dump #1) consisted of window glass, nails, bolt, unidentified metal fragments and bottle glass. (Appendix E Artifact Catalog) A broken bottle with an embossed label was also recovered. The label reads "Registered/ Lyon & Sons/Brewing Co./ Newark NJ./ This bottle/ Not to be resold." Lyons & Sons Brewing Company operated from 1897 to 1920, when the company closed. As early as 1874, the company operated as D. M. Lyon and Son(s). In the years prior to prohibition, Lyon & Sons Brewing Company became part of the larger United States Brewing Company. As the economical impacts of Prohibition caused many brewers to close, the United States Brewing Company merely dissolved, with Gotfried Krueger owning the shares to the Lyon & Sons Brewery, among others (www.rustycans.com).

An additional dump was located along the eastern portion of TR 4, adjacent to STP 69. This dump (Dump # 2) also has rusty milk containers, but also contained brick and concrete rubble. It was thought that this area represented a non-extant barn foundation. (Photo 16) Upon further inspection by Principal Investigator Stephanie Roberg-Lopez, MA RPA, it was determined that this was a surface dump rather than a foundation. A surface collection of this dump yielded several fragments of green and clear bottle glass, nail fragments, and a white milk glass cold cream container. Two intact bottles were recovered: a large amber one 1 quart liquor bottle embossed "

Federal law Forbids Sale or Re-use of this Bottle" that was machine made with a threaded rim, and a clear case bottle labeled as a Gordon's Gin bottle, the sides of which are embossed "New Jersey/Lindens". The bottle is machine made and has a lipped rim. The single shovel test excavated in this dump area encountered rock at a depth of 6" (15 cm). No cultural material was recovered from this shove test (STP 920).

Testing then moved to the southeastern portion of the Nussbaum property. Transects 20 through 46 aligned north northeast to southwest tested the portions of the project area located east of the wetland. Areas of wet soil were encountered in the southern most corner of the project precluding testing in this area. (See Fig 3: Field Reconnaissance Map). (Photo 12) Transects 20 through 46, which contained 276 shovel tests, encountered no cultural material of any kind. The soils encountered in this area consisted of a dark brown silt loam overlying a dark yellowish brown silty clay. Transects 39 through 44 encountered wet soils. The wetness in this area is believed to be the result of impounded water due to recent development in the area (Personal communication, Ted Talmadge to Samantha Browne 7-22-08). The surface of this area is characterized by an uneven ground surface, tufts of grass, and reeds among wet areas. Transects 32 through 36 terminated at the municipal boundary between the Town and Village of Chester. This area, one of the three village parcels included within the project area, is characterized by wet muddy soils, gravel berms, and excavated trenches. Asphalt was visible at ground level. The overall level of disturbance in this area precluded any subsurface testing.

A third surface dump (Dump #3) was found between the first shovel tests on Transects 22 and 23. This dump yielded two large wire nails and a clear case bottle. This bottle, which has a threaded lip and a suction scar at the base, is unmarked.

Transects 47 through 50 tested a small area on the southwestern side of the wetland. Transects began at the municipal boundary, identified by an iron road and pipe, as well a guy anchor for a telephone pole. These transects were excavated to investigate the possibility of cultural material buried beneath the impounded water. These shovel tests encountered wet soils consisting of a dark gray silt clay loam overlying a gray silt clay. No cultural material of any kind was identified in this area. South of these transects in small Village of Chester parcel is a highly disturbed area of bulldozed piles an asphalt. (Photo 17-19)

The next area subject to testing is the western portion of the site. This area contained Transect 51 through 67, which began at a stone wall located on the northeast side of New York State Route 17M. There transects proceeded northeast terminating either at the wetland or at slopes greater than 12% grade. Transects 65 though 67 began adjacent to a small area of plowed field planted with corn. Due to the low height of the corn (< 6"/15 cm) this small plot was surface inspected rather than shovel tested. (Photo 14) Two fragments of clay drain pipe were recovered as the result of the surface inspections. A total of 108 shovel tests were excavated in this portion of the Nussbaum property.

Testing then moved north to test the level terraces that intersperse the slopes located within the western central portion of the project area. Four transects (TR 68-72) were aligned north to south along these level benches. Thirty-two (32) shovel tests excavated in this area failed to identify cultural material of any kind. The soils encountered in this area consisted of a dark brown silt loam overlying yellowish brown silty clay.

The next area to be tested was the northwestern portion of the central wetland. Transects were aligned northeast with Transect 73 located on a level terraces and Transect 78 adjacent to the boundary of the wetland.

Twenty three (23) shovel tests were excavated in this area and identified soils were consistent with those previously discussed. No cultural material of any kind was identified within this area.

Camp Location

The last area to be tested was the supposed location of the Revolutionary War encampment. (Photo 5, 19) Clifton Patrick, Town of Chester Historian, and Ted Talmadge, an adjacent landowner, identified the area where it is reported Revolutionary War artifacts had been recovered. This area was tested by CITY/SCAPE: Cultural Resource Consultants at a close interval in an attempt to document and identify an encampment and to located additional cultural material. Seven transects (TR C1-C7) were excavated along the western side of the knoll in the center of the project area (Fig 4: Field Reconnaissance Map). Mr. Ted Talmadge described this location as being 60' (x m) from the corner of the western property line. The close interval grid covers this area extended to 75' on either side, of where the tents were believed to have been located. Transects were aligned south to north, and began along a west to east baseline. Transect C4 is located directly on the location identified by Mr. Talmadge as being the location of Revolutionary War tents. Transect C4 yielded a single plastic shot gun shell casing and a single fragment of coal slag, neither of which was collected. An additional fragment of coal slag was identified on Transect C7. No additional cultural material was recovered from this area.

Rock Shelters and Mines

The site was carefully inspected for any rock formations that might have served as a shelter or with the potential to yield lithic raw materials. No bedrock exposures or outcrops were encountered within the boundaries of the Nussbaum Property. No sources of lithic raw material were identified.

Summary and Conclusions

In July of 2008, CITY/SCAPE: Cultural Resource Consultants completed an archaeological field reconnaissance survey of the Nussbaum property located in the Town and Village of Chester, Orange County, New York. A thorough review of the existing body of archaeological data relevant to the project area was undertaken, and conclusions drawn concerning the probability of encountering prehistoric and/or historic cultural remains on the site. Disturbed areas, areas of wet soils, and areas of slopes greater that 12% were identified and eliminated from testing. Once this process was completed, areas possessing the potential to yield cultural remains were subjected to systematic subsurface archaeological testing and, in the area where corn had been planted, surface inspection.

A total of nine hundred and twenty (920) shovel tests were excavated on the Nussbaum property in areas considered to have potential to yield prehistoric or historic cultural material. Of the 920 shovel tests, none yielded prehistoric cultural material. Shovel tests placed at close intervals (25'/7.5 m) within the central portion of the site, identified by Clifton Patrick, Town of Chester Historian, and Ted Talmadge, an adjacent landowner, as the area of the Revolutionary War camp, yielded a single shot gun casing. Surface collections of three dump areas and the small corn field yielded material that dates exclusively to the 20th century. (Appendix E: Artifact Catalog)

In an effort to document the presence of a Revolutionary War camp on the Nussbaum property, CITY/SCAPE: Cultural Resource Consultants completed additional research as part of the Phase 1B survey. Based

on our documentary and cartographical research, supported by our findings in the field, it appears that reports of a Revolutionary War camp being located within the boundaries of the Nussbaum property are anecdotal, and that neither the Militia, Allied Forces, or the Continental Army camped within the boundaries of the site. One possible explanation for the finds, assuming that they date to the Revolutionary War period, is that they are the result of casual discard and/or loss by men returning from the war after the cessation of hostilities and the dissolution of the Continental army.

Based on the findings of the Phase 1B survey, it is the conclusion of CITY/SCAPE: Cultural Resource Consultants that no additional archeological investigation of the Nussbaum property is warranted, and that the project may proceed without further consideration of either prehistoric or historic archaeological resources.

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Robert Erskine
1779 *Map of Orange and Rockland counties area of New York Copied from surveys laid down by R. Erskine, F.R.S.*, Library of Congress, American Memory, Digital Collection (Map 7)

Andrew Skinner
1781 *A map containing part of the Provinces of New York and New Jersey, drawn from surveys compiled by Thomas Millidge, major 1st Battalion, New Jersey Volunteers, 1780. This map is drawn for Oliver Delancey, Esquire, adjutant general of N: America & major of the 17th Light Dragoons, by Andrew Skinner, 1781* Library of Congress, American Memory, Digital Collection (Map 8)

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1908 USGS Topo. 15 Minute Series. Goshen Quad.. Scale: 1:62,500. (Map 5)

APPENDICES

LIST OF APPENDICES

APPENDIX A

MAPS & FIGURES

MAP LIST

Maps

Map 1: Location Map including the Project Area. USGS Topographical Map. 7.5 Minute Series. Warwick Lake Quadrangle. Scale: 1:50,000. ¾ ” =1 mile.

Map 2: Location map including the project area. (taken from Hagstrom’s *Rockland/Orange/Ulster Counties Atlas* 2000*)* Plate 16. Scale: 1”=2,500’.

Map 3: F. W. Beers’ 1875 Map of the *Town of Chester* from *County Atlas of Orange, New York.* Original Scale: 1 ½” = 1 mile.

Map 4: J. M. Lathrop’s 1903 *Atlas of Orange County, New York.* Original Scale: 180 Rods = 1 inch.

Map 5: 1908 USGS Topographical Map. 15 Minute Series. Goshen Quadrangle. Scale 1 : 62,500. Enlarged 50%.

Map 6: Claude S. Sauthier 1776 *A map of the Province of New-York, reduc'd from the large drawing of that Province etc*., Library of Congress, American Memory, Digital Collection. Scale: Unknown.

Map 7: Robert Erskine 1779 *Map of Orange and Rockland counties area of New York Copied from surveys laid down by R. Erskine, F.R.S.,* Library of Congress, American Memory, Digital Collection. Scale: Unknown.

Map 8: Andrew Skinner. 1781 *A map containing part of the Provinces of New York and New Jersey, drawn from surveys compiled by Thomas Millidge, major 1st Battalion, New Jersey Volunteers, 1780.* Library of Congress, American Memory, Digital Collection. Scale: Unknown.

Figures

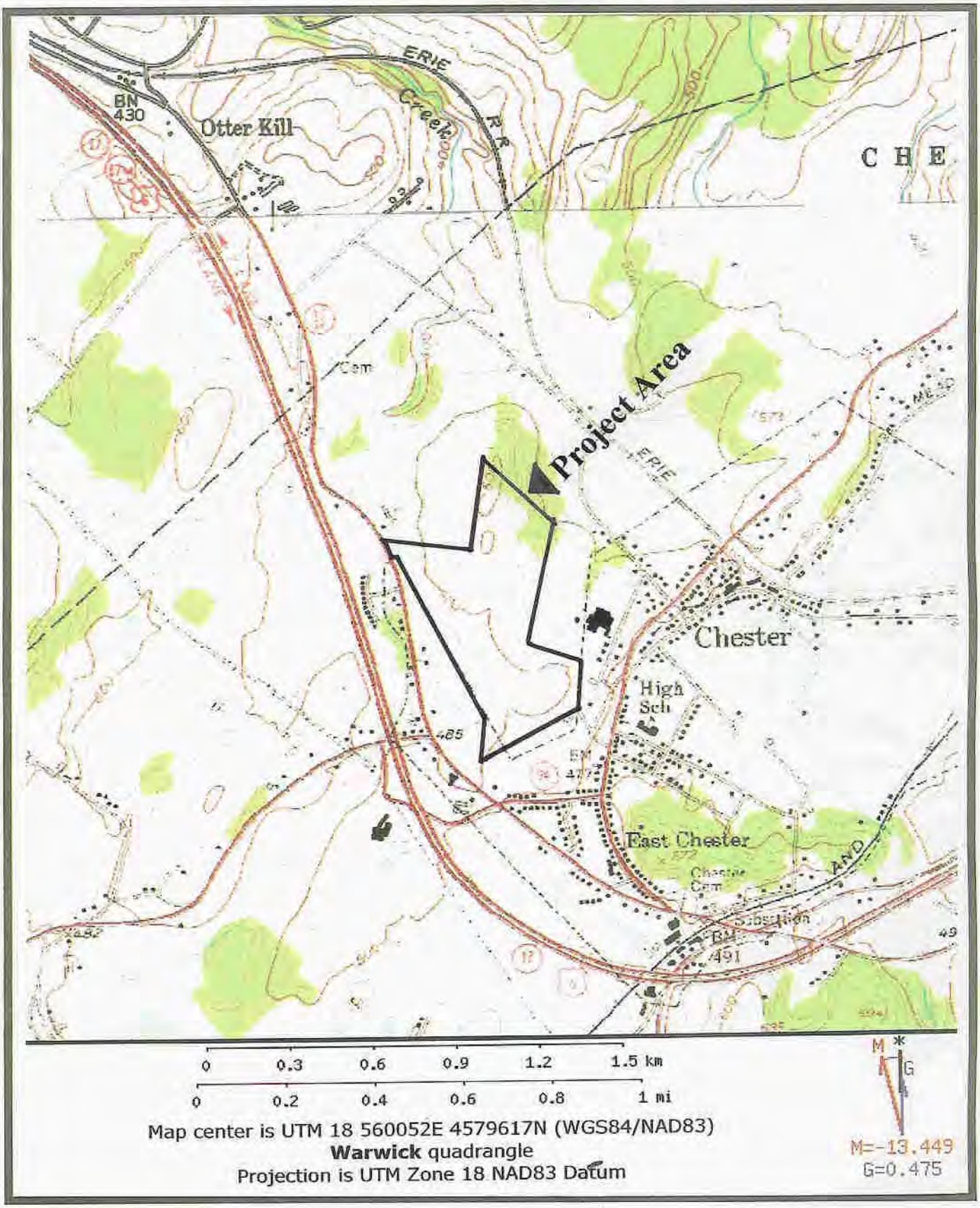
Fig. 1: Tax Map and Deed Reference. (Source: AFR 2006) No scale.

Fig. 2: Soil Map including the Nussbaum property.. (Source: *AFR 2002*)

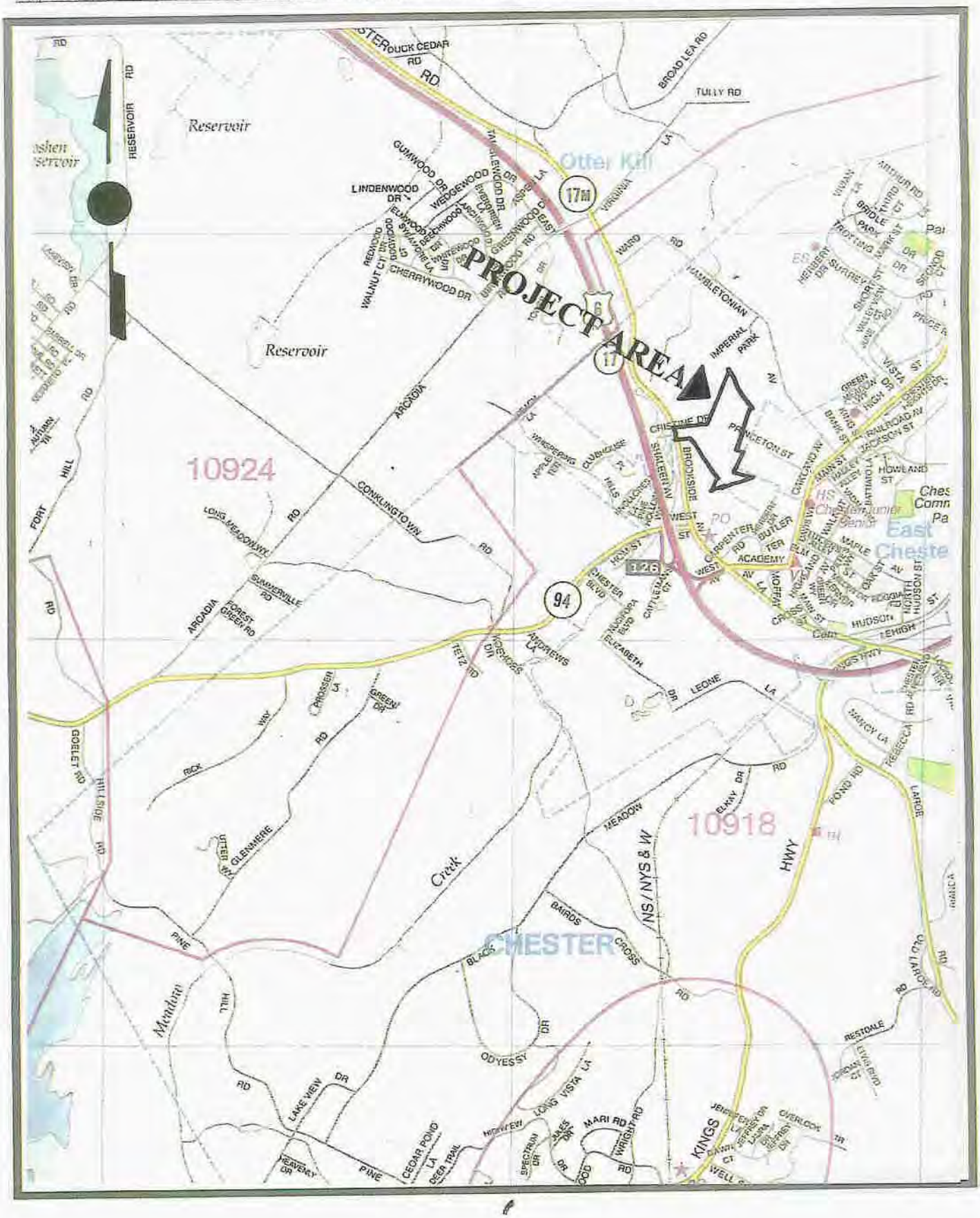
Fig. 3: Phase 1B Archaeological Field Reconnaissance Map for Nussbaum Property. Scale 1” = 150’. (in sleeve)

Fig 4: Field Reconnaissance Map. Reported Location of Camp. Scale 1” = 40’.

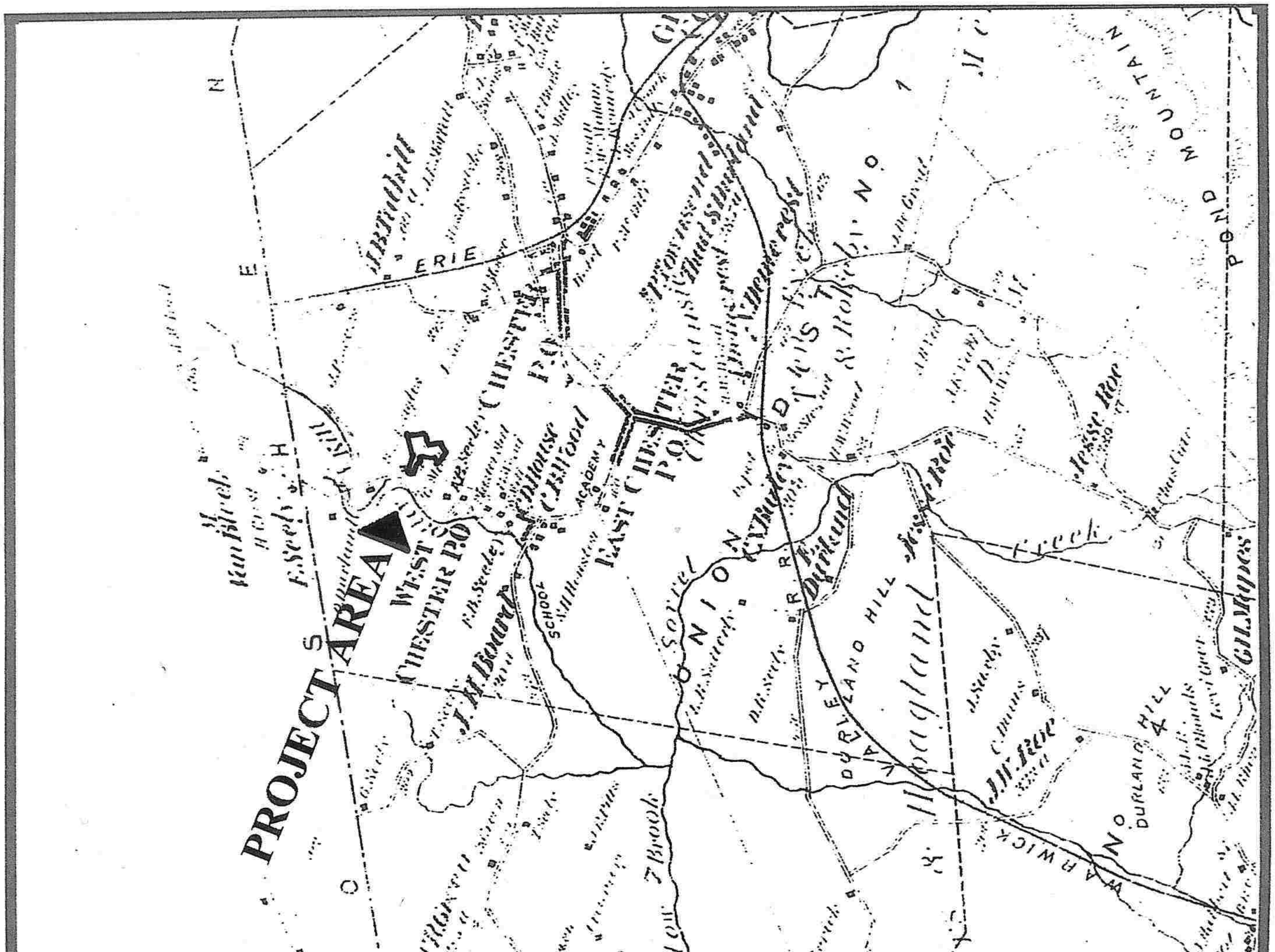
Map 1: Location Map including Project Area. USGS Topo. 7.5 Minute Series. Warwick Lake Quad. Scale: 1:50,000.



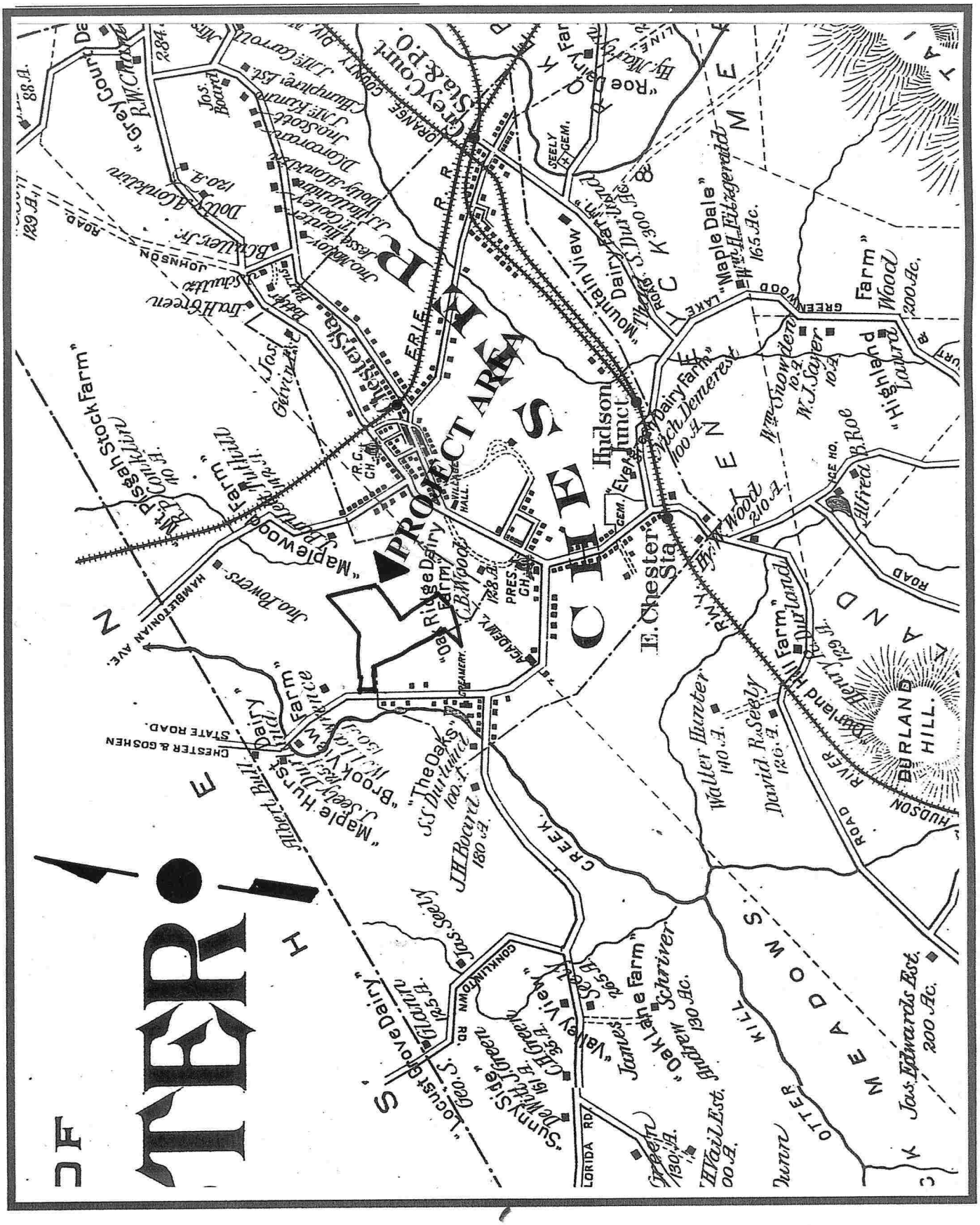
Map 2: Location Map. (from Hagstrom's *Rockland/Orange/Ulster Counties Atlas* 2000) Plate 16. Scale: 1" = 2,500'



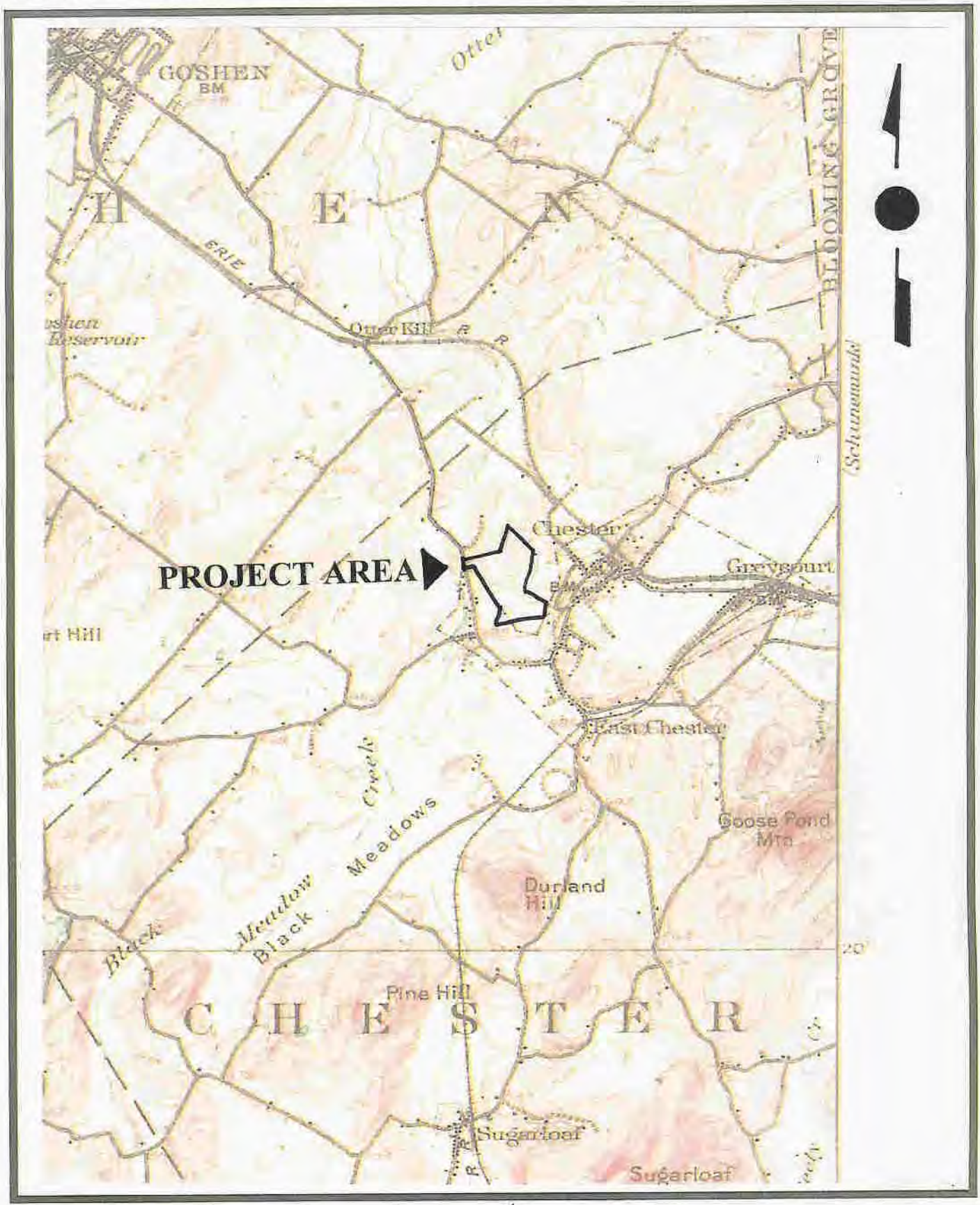
Map 3: F. W. Beers' 1875 *Map of Town of Chester* from *County Atlas of Orange, New York*. Original scale: 1½" = 1 Mile



Map 4: J. M. Lathrop's 1903 *Town of Chester* from *Atlas of Orange County, New York.* Original scale: 180 Rods = 1 Inch.



Map 5: 1908 USGS Topo. 15 Minute Series. Goshen Quad. Original scale: 1:62,500. Enlarged 50%



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Nussbaum Property Route 17M (Chester Road). Town and Village of Chester. . Orange County, New York

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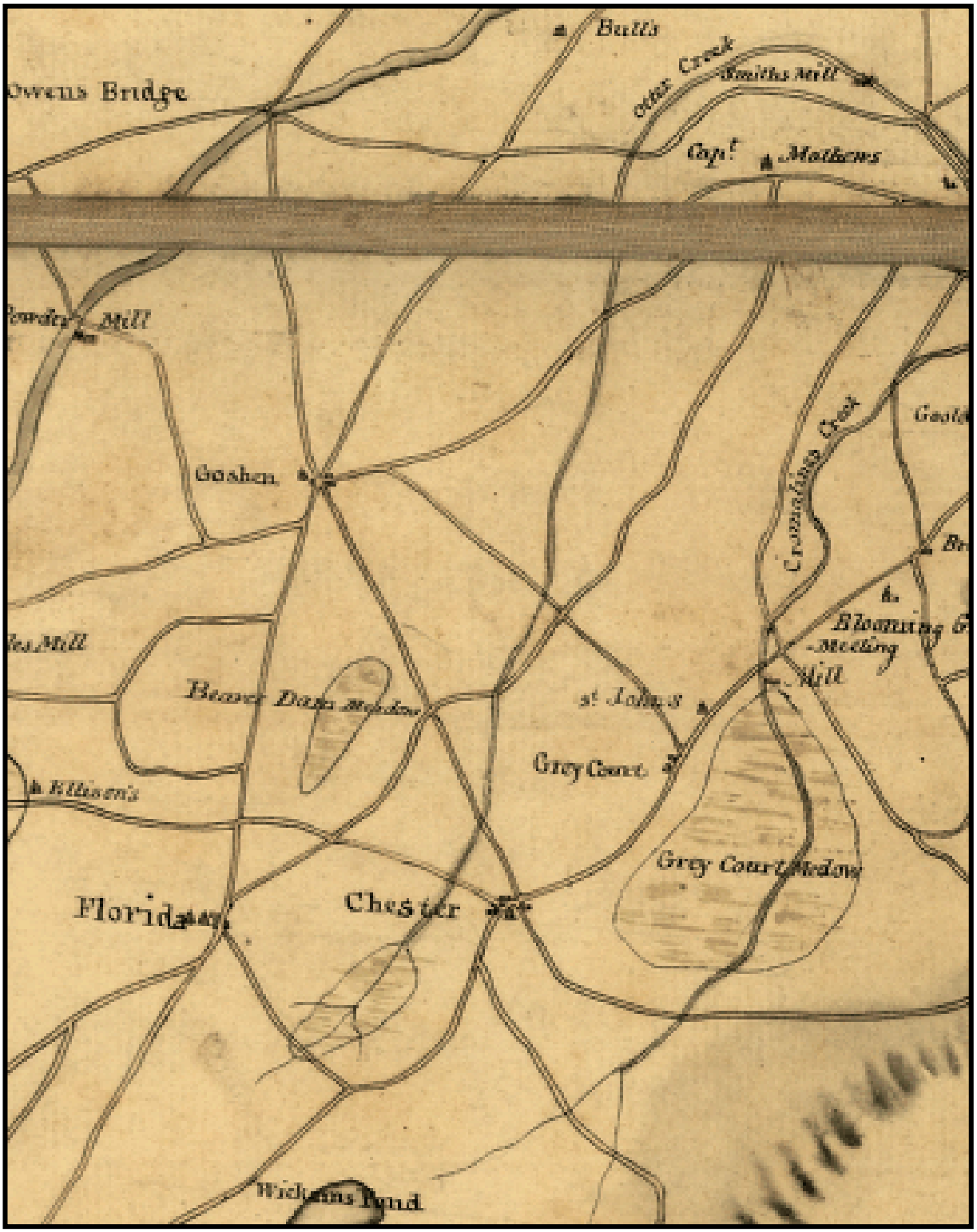
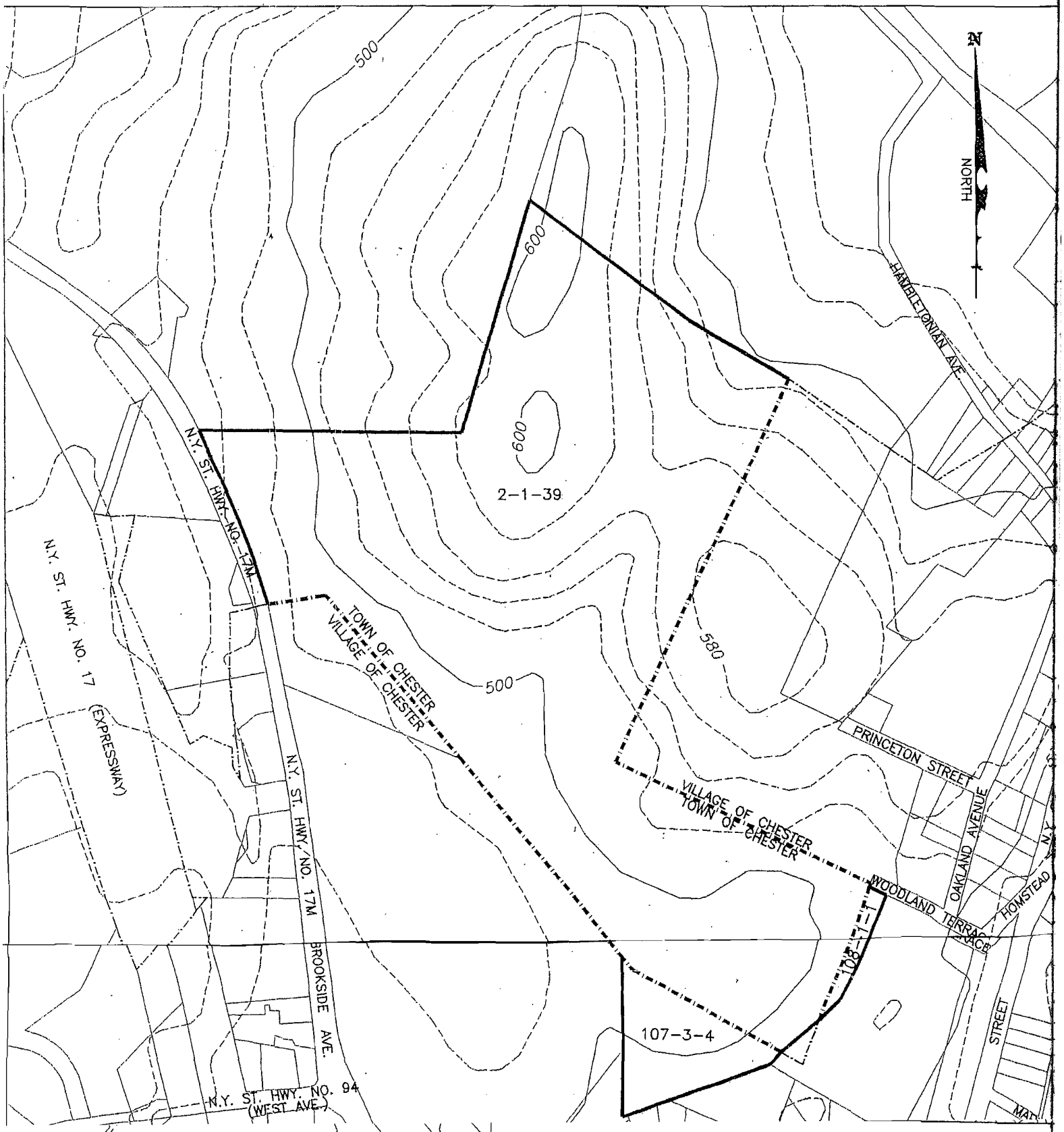
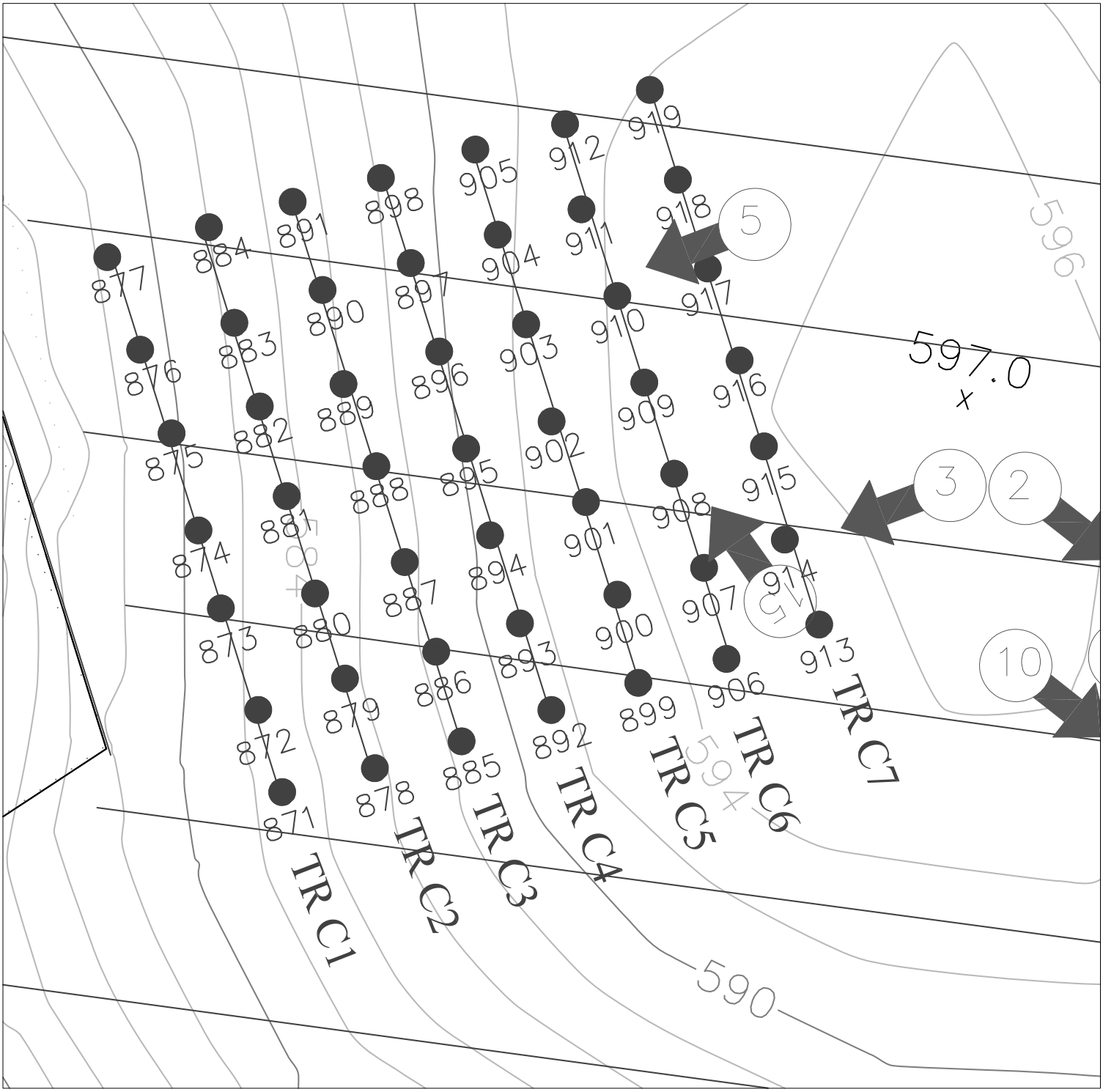




TAX MAP & DEED REFERENCE:
TOWN OF CHESTER
SECTION 2 BLOCK 1 LOT 39
VILLAGE OF CHESTER
SECTION 107 BLOCK 3 LOT 4
SECTION 108 BLOCK 1 LOT 1

NUSSBAUM PROPERTY

Town and Village of Chester
Fig. 1: Tax Map & Deed Reference



CITY/SCAPE Cultural Resource Consultants
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LEGEND

ST **Negative Shovel Test Location**

Photographic View

Figure 4: Nussbaum
Reported Camp Location
Phase 1B
Field Reconnaissance Map
Scale 1" = 40'

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1 inch = 40 ft.

APPENDIX B

PHOTOGRAPHS

Photo 1: Looking north into project area from Chester Mall parking lot.

Photo 2:. Looking southeast from near highest point on project area toward Chester Mall.

Photo 3: View southwest from highest point on project area across Brookview Farm to Route 17 (in middle ground).

Photo 4: House on Talmadge Farm (known as Brookview Farm), adjacent to project area, dates to early 19th century.

Photo 5: CITY/SCAPE archaeologist, Kris Mierisch, examining area where Revolutionary War encampment is reportedly located. View to southwest.

Photo 6: View from high point on project area looking southeast.

Photo 7: Rusted milk containers located within the area of TR 2, identified as Dump # 1. View north.

Photo 8: Shovel test 202 on TR 10. View north.

Photo 9: Field technician excavating Shovel test 172 on TR 9. View south.

Photo 10: Crest of hill overlooking Chester Mall between TR 15-16. View south.

Photo 11: Access road in central portion of Nussbaum property adjacent to wetland. View southwest.

Photo 12: Wet area located at southern extent of TR 37 along Village of Chester municipal boundary. View south.

Photo 13: Base of steep slopes as start of TR 58. View east.

Photo 14: Western corner of Nussbaum property surface inspected. View northeast.

Photo 15: Shovel tests within believed camp location excavated at 25' (7.5 m) interval. View north.

Photo 16: Shovel test 920 excavated within Dump # 2. View south.

Photo 17: Area of extreme disturbance located in southern most corner of Nussbaum property. View north east.

Photo 18: Disturbed area is characterized by exposed asphalt within the mixed soils. View east.