PHASE IA CULTURAL RESOURCES SURVEY
LEVINE RESERVOIR
WATER STORAGE IMPROVEMENT PROJECT
CITY OF PATERSON, PASSAIC COUNTY
NEW JERSEY

JULY 2010

RICHARD GRUBB & ASSOCIATES, INC.
Cultural Resource Consultants

Phase IA Cultural Resources Survey
Levine Reservoir
Water Storage Improvement Project
City of Paterson, Passaic County
New Jersey

By

Laura D. Cushman
Ilene Grossman-Bailey, Ph.D., RPA
Jennifer B. Leynes

Principal Investigators:

Ilene Grossman-Bailey, Ph.D., RPA (Archaeology)
Jennifer B. Leynes, MHP (Architectural History)

Prepared by:

Richard Grubb & Associates, Inc.
30 North Main Street
Cranbury, New Jersey 08512

Prepared for:

T.Y. Lin International | Medina
550 Broad Street, Suite 1105
Newark, New Jersey 07102

Date: July 6, 2010

EXECUTIVE SUMMARY

The Passaic Valley Water Commission (PVWC) is conducting a feasibility study to explore options for improving water storage at the Stanley M. Levine Reservoir in the City of Paterson and the Great Notch and New Street Reservoirs in the Borough of Woodland Park, Passaic County, New Jersey. This report presents the results of a Phase IA cultural resources survey for the Levine Reservoir project. Richard Grubb & Associates (RGA) has prepared this report for T.Y. Lin International | Medina, prime engineers to the PVWC.

The New Jersey Environmental Infrastructure Trust will fund this water storage improvement project; as such, this Phase IA cultural resources survey was performed in accordance with N.J.A.C. 7:22-8. The Phase IA cultural resources survey consisted of background research, review of historic atlases and maps, a site visit, an assessment of the potential for significant historic and prehistoric archaeological resources, and an assessment of project effects on architectural historic properties.

A review of cultural resources surveys at the New Jersey Historic Preservation Office (HPO) and site files at the New Jersey State Museum confirmed that no registered prehistoric or historic period archaeological sites exist within the Area of Potential Effects (APE)-Archaeology. Background research indicated that 15 registered prehistoric archaeological sites and two registered historic archaeological sites are located within a one-half mile radius. No historic structures are documented within the APE-Archaeology prior to the construction of the Levine Reservoir. The construction of the reservoir, excavated into bedrock, lessened the sensitivity for historic or prehistoric archaeological resources within the APE-Archaeology to very low. No further archaeological survey is recommended.

Background research revealed that the APE-Architecture lies within the Great Falls/Society for Useful Manufactures (SUM) Historic District, which is both listed on the State and National Registers of Historic Places and as a National Historic Landmark (SR 5/27/1971; NR 4/17/1970; Addendum SR 10/15/1974, NR 1/8/1975; NHL 5/11/1976). It is the opinion of RGA that the circa 1885 Levine Reservoir contributes to the significance of the Great Falls/SUM Historic District. As a result, consultation with the HPO to minimize project effects on the historic district through context-sensitive design and/or enhancing vegetative buffers on the property is recommended. Recordation of the reservoir to Historic American Engineer Record standards may also be required prior to construction. Additionally, because the project is publicly-funded and lies within a State Register-listed historic district, an Application for Project Authorization under the New Jersey Historic Places Act will be required. Consultation with the HPO regarding the need for an intensive-level survey of the Grand Street Pumping Station is also recommended because the building was recommended eligible for the National Register in a previous historic resource survey, and is historically associated with the Levine Reservoir.

TABLE OF CONTENTS

Executive Summary i

Table of Contents ii

List of Figures, Photo Plates, and Tables iii

1.0 Introduction 1-1
- 1.1 Project Description 1-3
- 1.2 Area of Potential Effects 1-3

2.0 Research Goals and Design 2-1
- 2.1 New Jersey and National Registers of Historic Places Criteria 2-1
- 2.2 Public Consultation 2-3

3.0 Environmental Setting 3-1

4.0 Background Research 4-1
- 4.1 Prehistoric Context 4-1
- 4.2 Historic Context 4-2
- 4.3 Site-Specific Research: Archaeology 4-11
- 4.4 Site-Specific Research: Historic Architecture 4-13

5.0 Archaeology Results 5-1
- 5.1 Assessment of Archaeological Sensitivity 5-1
- 5.2 Archaeological Reconnaissance 5-2

6.0 Historic Architectural Survey Results 6-1
- 6.1 Field Reconnaissance 6-1
- 6.2 Identification of Historic Properties 6-10
- 6.3 Assessment of Effects 6-10

7.0 Conclusions and Recommendations 7-1

8.0 References 8-1

9.0 Appendices
- Appendix A: Record of Public Consultation
- Appendix B: 1987 City of Paterson Cultural Resource Survey
- Appendix C: Annotated Bibliography

LIST OF FIGURES, PHOTO PLATES, AND TABLES

FIGURES:

Figure 1.1: U.S.G.S. Map 1-2

Figure 1.2: Project Plans 1-4

Figure 1.3: APE-Architecture 1-6

Figure 3.1: Physiographic Provinces Map 3-2

Figure 3.2: Soils Map 3-3

Figure 4.1: 1781 Leut. I. Hills, Sketch of the Northern Parts of New Jersey 4-3

Figure 4.2: 1861 G.M. Hopkins, Map of the Counties of Bergen and Passaic, New Jersey 4-4

Figure 4.3: 1877 E.B. Hyde & Company, *Atlas of Passaic County, New Jersey* 4-5

Figure 4.4: 1884 E. Robinson and R. H. Pidgeon, *Atlas of the City of Paterson* 4-6

Figure 4.5: 1912 Passaic Water Company, "Plan Showing Property of the Passaic Water Company at Stony Road Reservoir in the City of Paterson, N.J., Conveyed to the S.U.M." 4-7

Figure 4.6: 1915 Sanborn Insurance Company, Map of Paterson, New Jersey 4-9

Figure 4.7: 1944 U.S.G.S. 7.5' Quadrangle: Paterson, New Jersey 4-10

Figure 5.1: Archaeology Photograph Location Map 5-4

Figure 6.1: Map of Historic Properties 6-2

Figure 6.2: Architectural Photograph Location Map 6-3

PHOTO PLATES:

Plate 5.1: The APE-Archaeology from Grand Street 5-5

Plate 5.2: The APE-Archaeology showing structures to the west 5-6

Plate 5.3: The APE-Archaeology showing the pumping station to the south 5-7

Plate 5.4: Facing east toward the steep slope adjacent to Stony Road 5-8

Plate 6.1: Levine Reservoir from the embankment at Grand Street 6-4

Plate 6.2: South retaining wall of Levine Reservoir 6-5

Plate 6.3: Structure at outlet chamber on south wall 6-6

Plate 6.4: Grand Street Pumping Station 6-7

Plate 6.5: Minardi's Bakery, 125 Grand Street 6-8

Plate 6.6: View of residential neighborhood west of reservoir from Reservoir Road 6-9

TABLES:

Table 4.1: Summary of New Jersey prehistory 4-1

Table 4.2: Registered archaeological sites within one mile of the APE 4-11

SECTION 1.0 INTRODUCTION

This report presents the results of a Phase IA cultural resources survey conducted within the Area of Potential Effects (APE) at the Stanley M. Levine Reservoir in the City of Paterson, Passaic County, New Jersey (Figure 1.1). The Passaic Valley Water Commission (PVWC) is studying alternatives to improve water storage throughout its system, including the Levine Reservoir. The assessment of potential effects presented herein is preliminary. A more thorough assessment of project effects will be conducted after the preferred alternative has been selected.

The purpose of the Phase IA cultural resources survey is to: 1) determine the potential for significant archaeological sites within the limits of disturbance for the proposed undertaking; and 2) assess project effects on architectural resources listed in or eligible for listing on the State and National Registers of Historic Places. It is expected that the New Jersey Environmental Infrastructure Trust will fund the project. As such, the Phase IA cultural resources survey complies with N.J.A.C. 7:22-10:8 and all requirements of the New Jersey Department of Environmental Protection (NJDEP) for such studies. This report meets the archaeological and architectural survey and reporting guidelines of the NJDEP.

This Phase IA cultural resources survey has been performed in accordance with the instructions and intents set forth in Section 106 of the National Historic Preservation Act of 1966. Section 106 as implemented by federal regulations appearing at 36 Code of Federal Regulations (CFR) Part 800 requires federal agencies to consider the effects of their actions on any properties listed in or determined eligible for listing in the National Register of Historic Places. Federal agency preservation officials, in consultation with the New Jersey State Historic Preservation Officer (SHPO), must determine whether a proposed action would have any effects on the characteristics of a historic property that qualifies it for the National Register. If no historic properties are affected or adversely affected then the Section 106 process is complete. If historic properties are adversely affected then consultation continues, and a Memorandum of Agreement or a Programmatic Agreement is executed to mitigate or minimize the adverse effect.

Interested parties, such as local historical and preservation societies, as well as archaeological societies, were consulted to gain information on potential archeological and architectural resources in or near the APE. The record of this consultation and responses from these parties are presented in Appendix A.

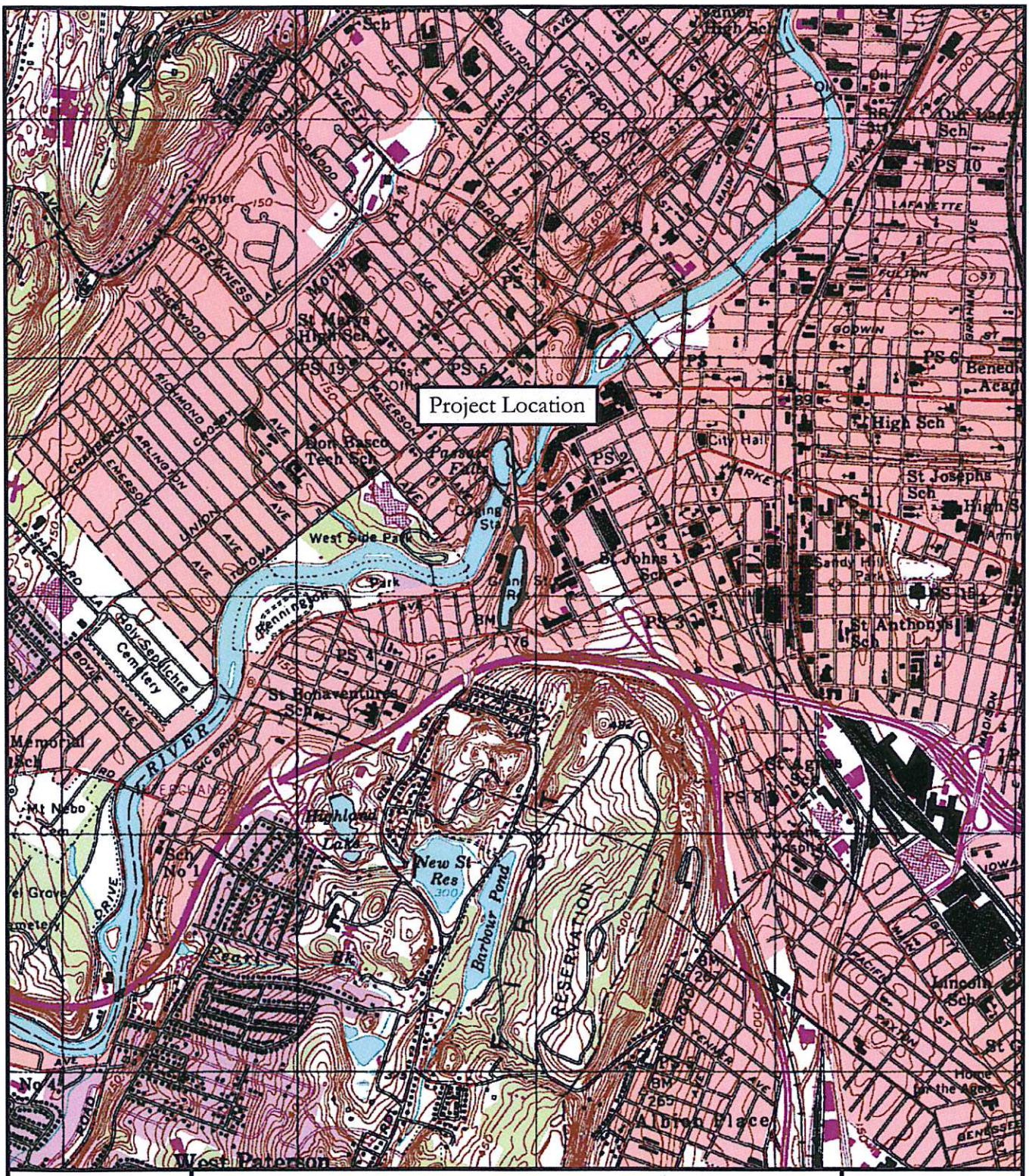


Figure 1.1:

U.S.G.S. Map
(from 1995 U.S.G.S. 7.5' Quadrangle: Paterson, NJ).

1.1 Project Description

The project is located at the Stanley M. Levine Reservoir in the City of Paterson, Passaic County (see Figure 1.2). The reservoir is located on the north side of Grand Street near its intersection with New Street; it is bounded on the north and east by Upper Raceway Park and on the west by Reservoir Road and McBride Avenue. The reservoir is located in a densely developed urban environment, with commercial and industrial properties on Grand Street and residential properties on Reservoir Road and McBride Avenue. The north end of the reservoir is surrounded by mature trees, which provide a vegetative buffer for surrounding properties.

The Levine Reservoir property includes the four-acre reservoir, which was created in 1885 by excavation of the site and construction of stone and earth walls. Concrete walls were added to the reservoir in the 1930s. A gatehouse with stuccoed exterior is located on the south side of the reservoir, and a brick pumphouse and small storage building are situated on its west side (see Figure 1.2).

1.2 Area of Potential Effects

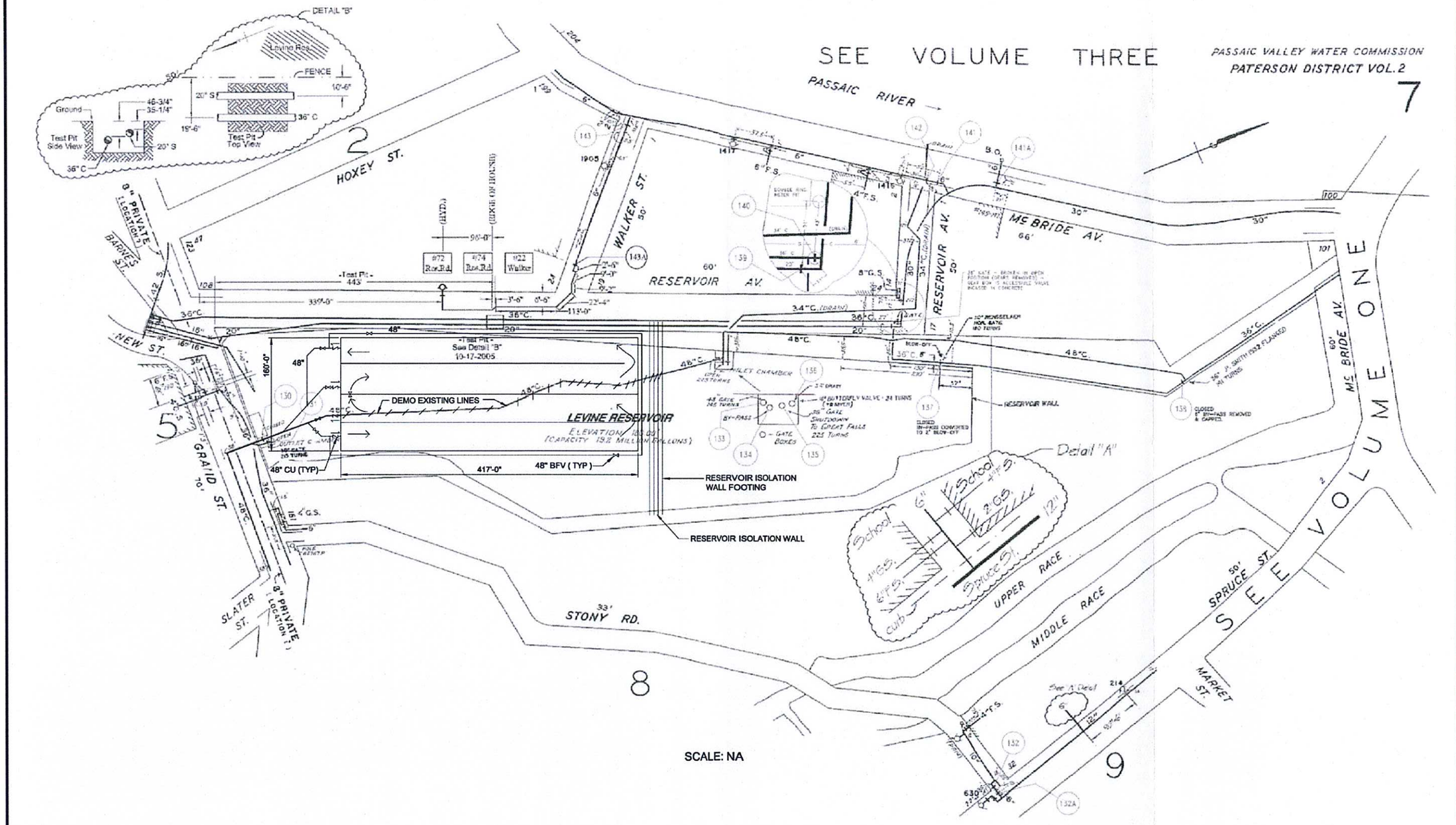
The APE is defined in 36 CFR 800.16(d) as follows: "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

APE-Archaeology

The APE-Archaeology includes locations that may potentially be impacted by construction or that may experience effects once construction is completed. For example, the APE includes all locations where an undertaking may result in disturbance of the ground and where the activity may result in changes in land use. Project effects can include physical destruction, demolition, damage, or the alteration of a historic resource. The APE-Archaeology includes all locations proposed for ground disturbance as shown on Figure 1.2.

APE-Architecture

The APE-Architecture includes the entire area of the APE-Archaeology and the area in which the project may directly or indirectly cause changes in the character or use of historic properties. The APE-Architecture includes all properties adjacent to the construction impacts. To account for potential visual or contextual effects, the APE-Architecture extends beyond the actual construction



PRELIMINARY
NOT RELEASED
FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

DESIGNED CR
DRAWN MJS
CHECKED
DATE April 2010
ENGINEER

PASSAIC VALLEY WATER COMMISSION
FIGURE 18
LEVINE RESERVOIR

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8378A.00
DRAWING NO.
SHEET NO.
OF

RGA

Figure 1.2:

Project Plans.

Feet
0 140

limits of the project to include those properties that may be impacted by visual changes, patterns of use, or may experience a change in historic character associated with the water storage improvements at the Levine Reservoir and associated construction activities. The APE-Architecture is depicted on Figure 1.3.

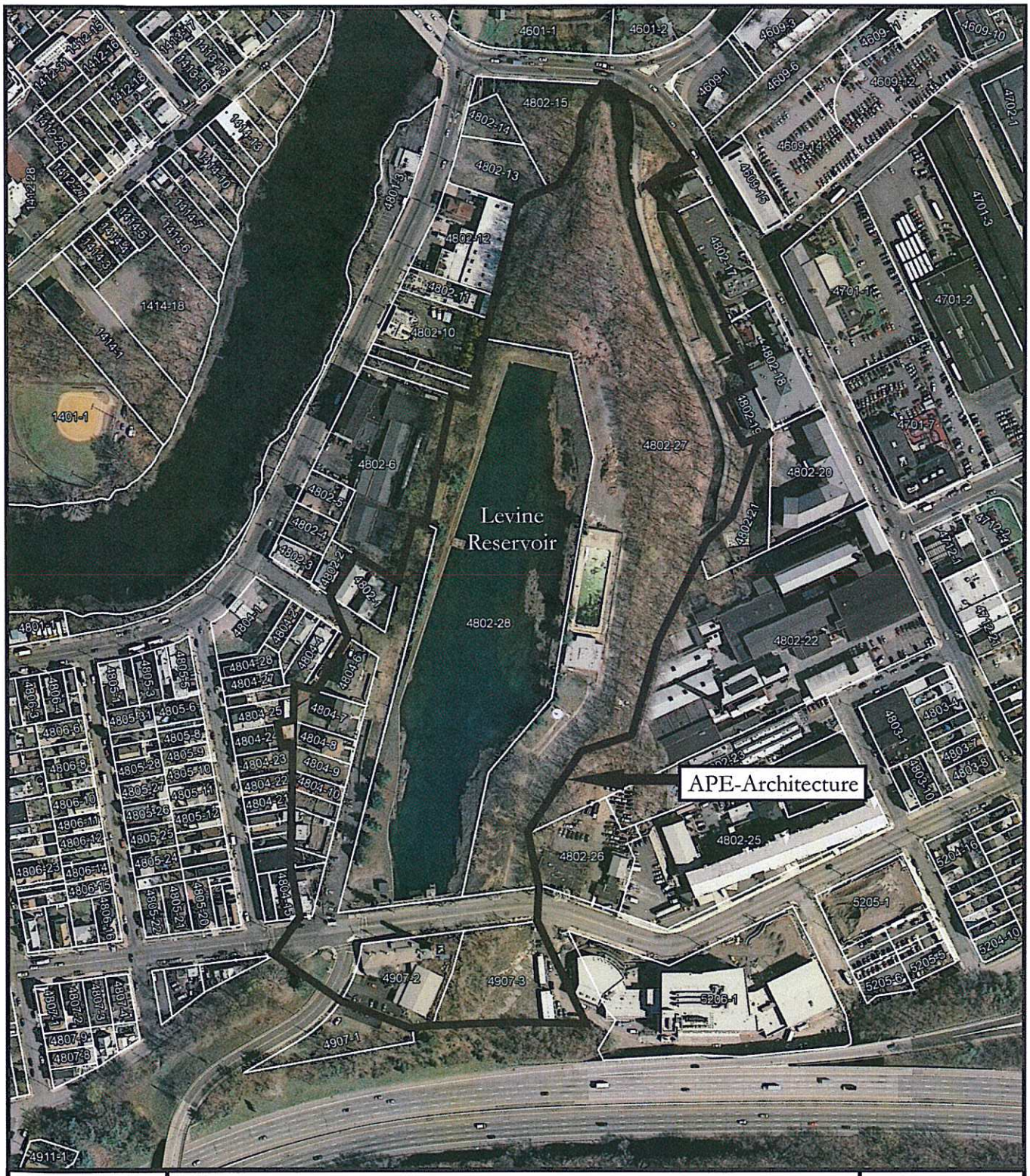


Figure 1.3:

APE-Architecture
(from U.S.G.S. New Jersey Digital Ortho Quarter Quads, 2007;
parcel data from Passaic County Department of Planning, 2009).

SECTION 2.0 RESEARCH GOALS AND DESIGN

The goal of this Phase IA cultural resources survey is to determine if documented prehistoric and historic period archaeological resources exist within the APE-Archaeology, to determine the probability for the APE-Archaeology to contain undocumented significant archaeological resources, and to determine if architectural resources listed in, eligible for, or potentially eligible for the New Jersey and National Registers of Historic Places may be affected by the undertaking. Determinations of significance and integrity are based on the National and State Registers of Historic Places Criteria for Evaluation.

2.1 New Jersey and National Registers of Historic Places Criteria

Significant historic properties include districts, structures, objects, or sites that are at least 50 years of age and meet at least one National Register criterion. Criteria used in the evaluation process are specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4). To be eligible for inclusion in the National Register of Historic Places, a historic property(s) must possess:

> the quality of significance in American History, architecture, archaeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> (b) that are associated with the lives of persons significant in our past, or
>
> (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
>
> (d) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register of Historic Places. However, such

properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(a) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or

(b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

(c) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or

(d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

(e) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

(f) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or

(g) a property achieving significance within the past 50 years if it is of exceptional importance. (36 CFR 60.4)

When conducting National Register evaluations, the physical characteristics and historic significance of the overall property are examined. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, and physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period, or b) it independently meets the National Register criteria. A non-contributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was not present during the period of significance, b) due to alterations,

disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or c) it does not independently meet the National Register criteria.

2.2 Public Consultation

Because the views of the public are essential to informed federal decision-making in the Section 106 process, the public must be informed about the project and its effects on historic properties, and given the opportunity to comment. The following interested parties were identified for the water storage improvement project that included the Great Notch, New Street, and Levine Reservoirs: Passaic County Historical Society, Passaic County Historian, Passaic County Parks Department, Passaic County Cultural and Heritage Commission, Paterson Historic Preservation Commission, Paterson Friends of the Great Falls, Paterson Great Falls National Historical Park, and National Historic Landmarks Program. Information was requested from each regarding opinions as to the significance of properties within the APE, project compatibility/incompatibility with existing historic resources, project effect(s) on eligible resources, and other thoughts and concerns relevant to the Section 106 process for the project. A record of correspondence with all individuals and organizations contacted during the Phase IA cultural resources survey is contained in Appendix A of this report.

SECTION 3.0 ENVIRONMENTAL SETTING

The APE-Archaeology is located within the Piedmont Lowlands Physiographic Province (Figure 3.1; Wolfe 1977). The Piedmont Lowlands is a physiographic province characterized by clays and marls, as well as soft shales, argillites, sandstones, and siltstones that formed during periods of glacial modification and geological plate movements (Wolfe 1977). The terrain of the Piedmont Lowlands consists of a gently undulating surface that slopes gradually from the New Jersey Highlands to the Coastal Plain. The gently sloping terrain is interrupted by a plateau-like topography created by the basalt ridges of the Watchung Mountains, which are resistant to erosion (Wolfe 1977:244). The APE-Archaeology is located just to the northwest of Garret Mountain at the northeastern end of the First Watchung Mountain. The bedrock underlying the APE-Archaeology consists of Lower Jurassic-Age Orange Mountain Basalt (Drake et al. 1996). Surficial sediments in the APE-Archaeology consist of thin deposits of Rahway till (Stone et al. 2002).

The APE-Archaeology is located within and adjacent to the Levine Reservoir (formerly the Stony Road Reservoir), which was built in 1885 by the Passaic Water Company just south of the Great Falls of the Passaic River. Elevations within the APE-Archaeology are approximately 175 feet above mean sea level (see Figure 1.1). The APE-Archaeology is approximately 400 feet east of the Passaic River and 1,000 feet south of the Great Falls of the Passaic River. Prior to reservoir construction, it appears that the APE-Archaeology lay on a ridge.

The soil types present within the APE-Archaeology are Holyoke-Rock outcrop complex, 3 to 15 percent slopes (HrC) and Rock outcrop-Holyoke complex, 15 to 35 percent slopes (RwE) (Figure 3.2). The Holyoke-Rock outcrop-Holyoke complex, 3 to 15 percent slopes, consists of a mixture of Holyoke soils and basalt bedrock outcrops with the rock outcrop comprising approximately 10 to 30 percent of each mapped area (Seglin 1975:14) Holyoke series soils are gently sloping to very steep, well-drained and shallow and are found on the sides and tops of the three basalt ridges in the southern part of Passaic County (Seglin 1975:13). Rock outcrop-Holyoke complex, 15 to 35 percent slopes, similarly consists of basalt outcrops and Holyoke soils. The depth to bedrock in these soils is approximately 20 inches or less (Seglin 1975:24).

The vegetation for this area is classified as Mixed Oak Forest, Northern Phase (Collins and Anderson 1994). Current vegetation within the APE-Archaeology consists of manicured grass lawn adjacent to the access road and a mixture of deciduous and evergreen trees and low brush and weeds surrounding the Levine Reservoir. Much of the APE-Archaeology lies within the Levine Reservoir.

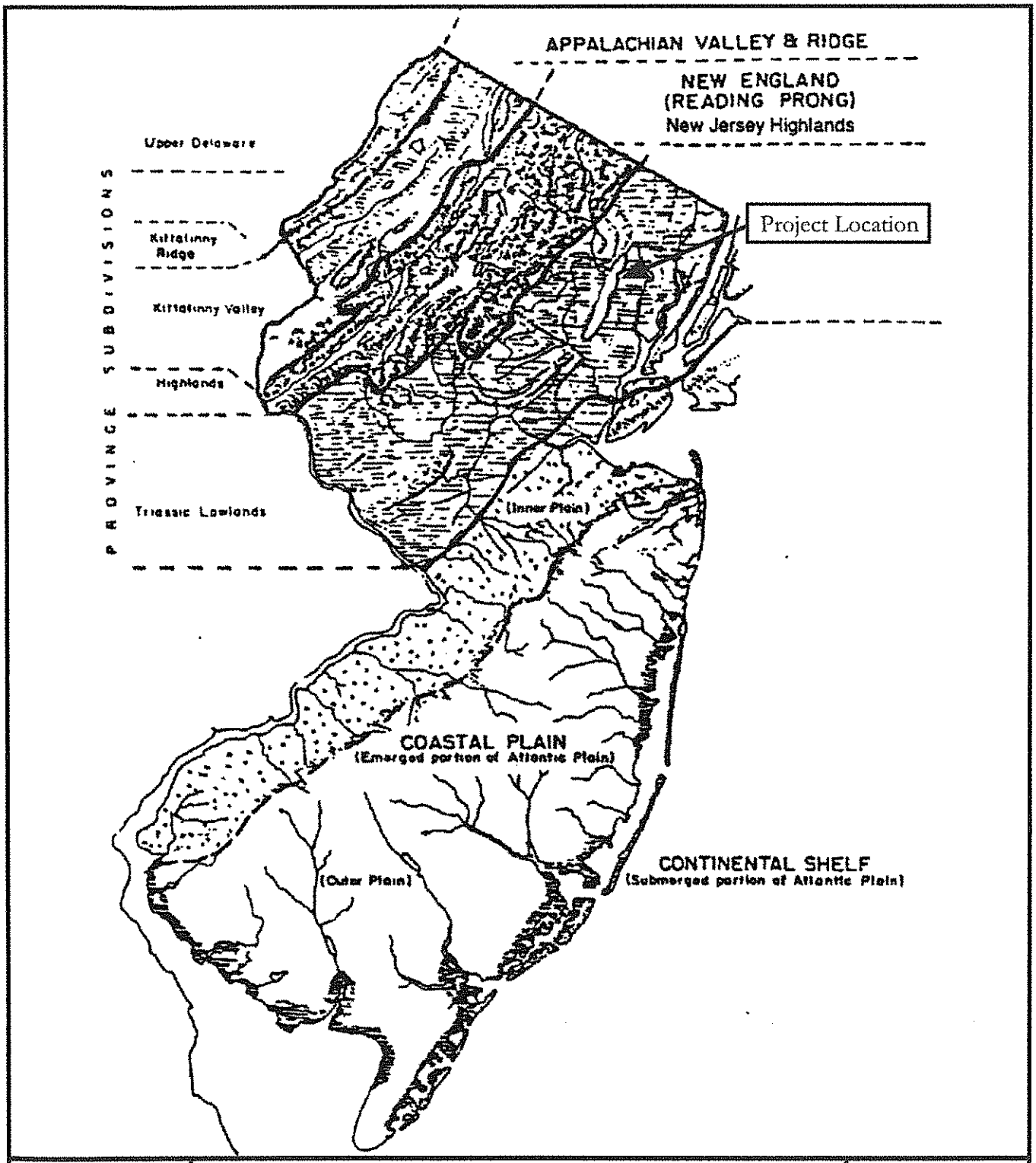


Figure 3.1:

Physiographic Provinces Map
(from Wolfe 1977).

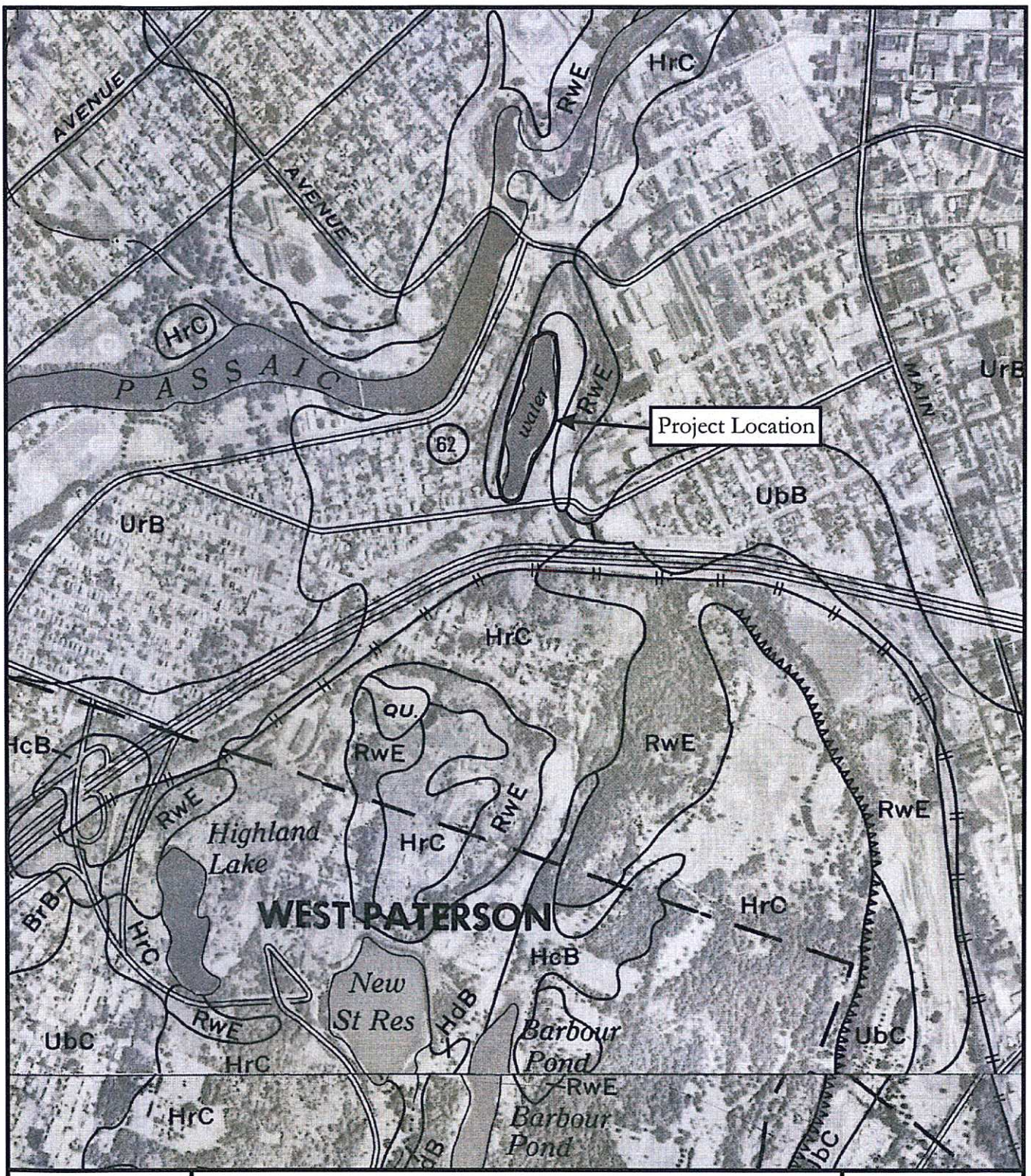


Figure 3.2:

Soils Map
(from Seglin 1975, Sheet Numbers 17 and 18).

SECTION 4.0 BACKGROUND RESEARCH

Background research was conducted to locate previously identified archaeological and architectural resources in the APE, and to evaluate previously unidentified cultural resources within an appropriate historic context. Research was conducted at the New Jersey Historic Preservation Office (HPO) in Trenton to identify architectural and archaeological resources within the APE that are listed in or eligible for the National Register, and to review previously conducted cultural resources surveys. Site files at the New Jersey State Museum (NJSM) in Trenton were examined to identify the location of registered archaeological sites. A review of historic maps, and local and county histories, was conducted at the New Jersey State Library in Trenton.

4.1 Prehistoric Context

Since the 1930s, archaeologists have organized chronological and cultural information about the prehistoric occupants of New Jersey and the Middle Atlantic into three broad time periods: Paleo-Indian +/-9500B.C.- 8000 B.C., Archaic 8000-1000 B.C., and Woodland 1000 B.C.-A.D. 1600 (Chesler 1982; Cross 1941; Custer 1996; Grossman-Bailey 2001; Kraft 1986, 2001; Mounier 2003; Ritchie 1980). These periods act as a framework in order to study the approximately 12,000 years of human occupation in the area. The Archaic and Woodland periods are subsequently subdivided into Early, Middle, and Late sub-periods. The prehistoric era is considered to have ended approximately 1550 to 1600 A.D., during the time of initial contact between Native groups and Old World populations, and is followed by a period of extensive colonization by the Dutch, Swedish, and English. A generalized prehistoric background for the Middle Atlantic region, including New Jersey, is presented in Table 4.1.

Table 4.1: Summary of New Jersey prehistory.

Time Frame	Period	Characteristics
1600 A.D.	Contact Period	- Initial colonization by Europeans - Extensive trade networks established between Europeans and Native Americans
1350-1600 A.D.	Late Woodland	- Expansion of maize based horticulture - Use of bows and arrows with triangular projectile points - Settlement in unfortified hamlets and camps - Increase in the diversity and use of decorative ceramics
1000 B.C.-1000 A.D.	Early/Middle Woodland	- Increase in shellfish exploitation from rivers and estuaries - Use of dugout canoes - Extensive trade networks for exotic raw materials - Evidence for mortuary ceremonialism

Table 4.1; cont.

Time Frame	Period	Characteristics
1000 to 8000 B.C.	Archaic	- Exploitation of multiple resources through hunting and gathering - Adaptive strategies include exploitation of coastal resources - Diversity of raw material for stone tool production - First use of ceramic vessels
8000 to 9500 B.C.	Paleo-Indian	- Earliest evidence for human occupation in New Jersey - Hunting of caribou and now extinct Pleistocene fauna - Probable exploitation of riverine resources including fish - Fluted projectile points usually manufactured from high grade raw material - Small mobile bands of hunters and gatherers that may have seasonally aggregated

4.2 Historic Context

The APE is located in what was historically Acquackanonck Township, which was formed in Essex County in 1693 (Snyder 1969:209). Paterson Township was set off from Acquackanonck Township in 1831 and was replaced by the City of Paterson through a referendum in 1851 (Snyder 1969: 210). The area near the Great Falls was undeveloped until the mid- to late nineteenth century (Hills 1781; Figure 4.1; Hopkins 1861; Figure 4.2). The Morris Canal was built by then to the south of the APE; however, development was generally located to the east. By the late 1870s, the Morris & Essex Railroad was built south of the APE. Streets were laid out (at least on paper) within and adjacent to the APE, but there does not seem to be any structures built before 1884 (E.B. Hyde & Company 1877; Figure 4.3; Robinson and Pidgeon 1884; Figure 4.4).

The Levine Reservoir, historically known as the Stony Road or Grand Street Reservoir, was built in 1885 by the Passaic Water Company to improve water supply to the City of Paterson (Brown 1890:79; Robinson and Pidgeon 1884; see Figure 4.4). Organized in 1854, the Passaic Water Company constructed three reservoirs (Lower, Middle, and Totowa) in its first 30 years of existence. The growth of the city's industry and population during the late nineteenth century created a demand for additional improvements to the water supply and led to the purchase of the Levine Reservoir property in 1884 (Brown 1890:73-79). Constructed and put into service the following year, the new Levine Reservoir became the largest of the company's four water storage facilities, with a capacity of 25 million gallons (Sanborn Map Company 1915).

The Passaic Water Company also made related improvements to the water supply system in the vicinity of the Levine Road Reservoir. The Grand Street Pumping Station was erected in 1896 on the south side of Grand Street near the Morris Canal. By 1912, a regulator house had also been built on Grand Street, west of the New Street intersection (Passaic Water Company 1912; Figure 4.5). The

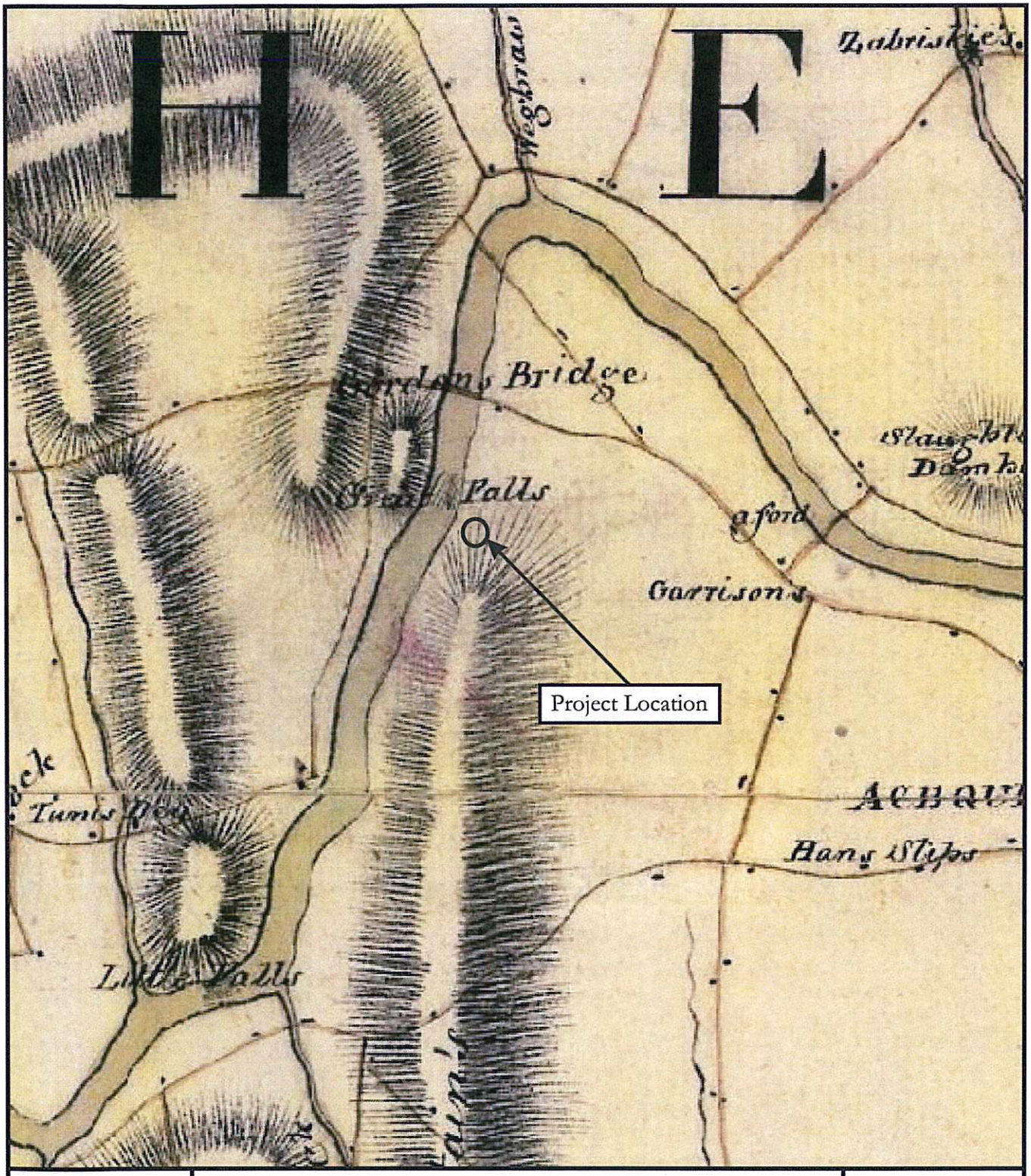


Figure 4.1:

1781 Leut. I. Hills, Sketch of the Northern Parts of New Jersey.

N
W E
S
Mile
0 1

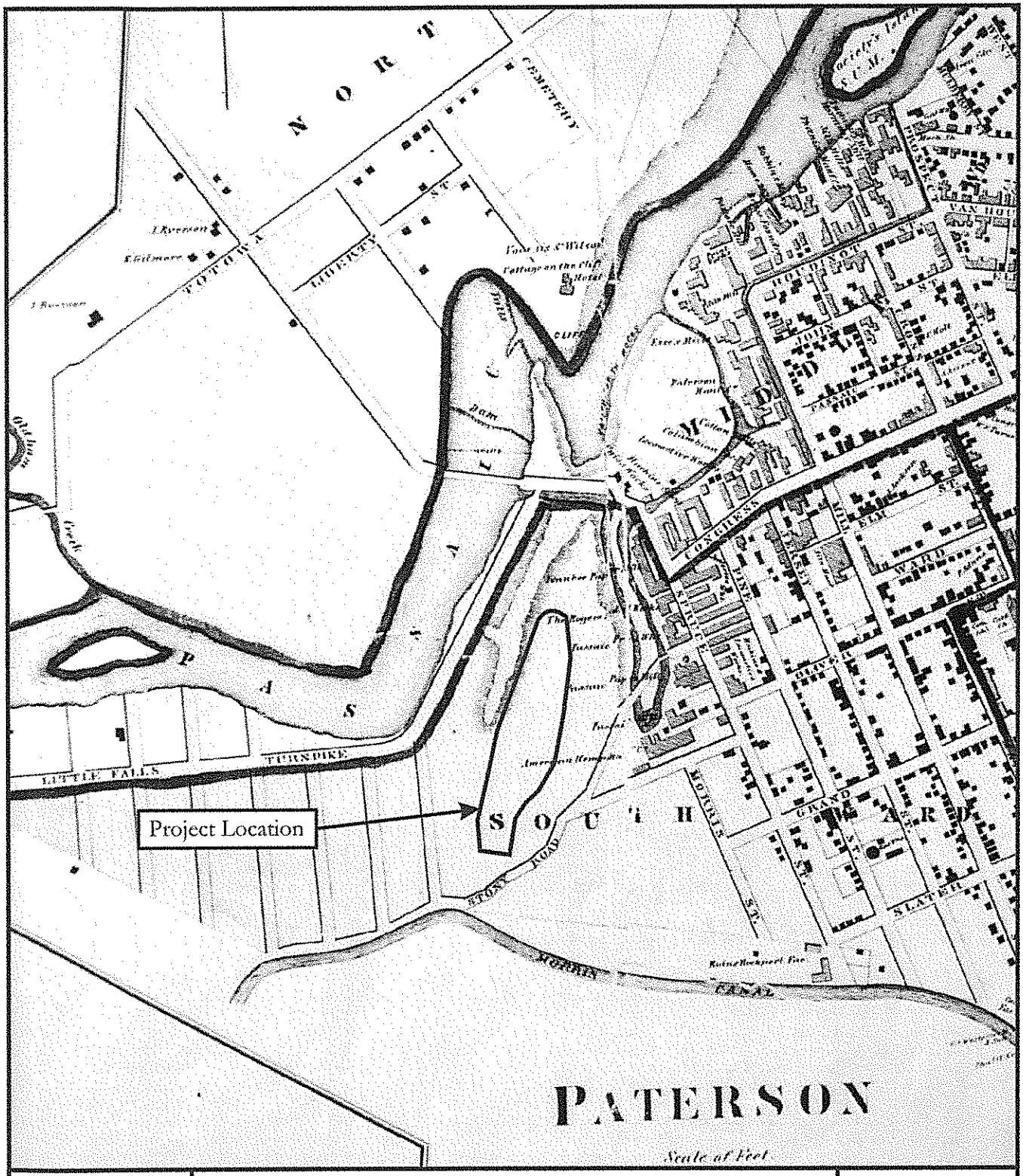


Figure 4.2:

1861 G.M. Hopkins, Map of the Counties of Bergen and Passaic, New Jersey.

N
W E
S

Feet
0 660

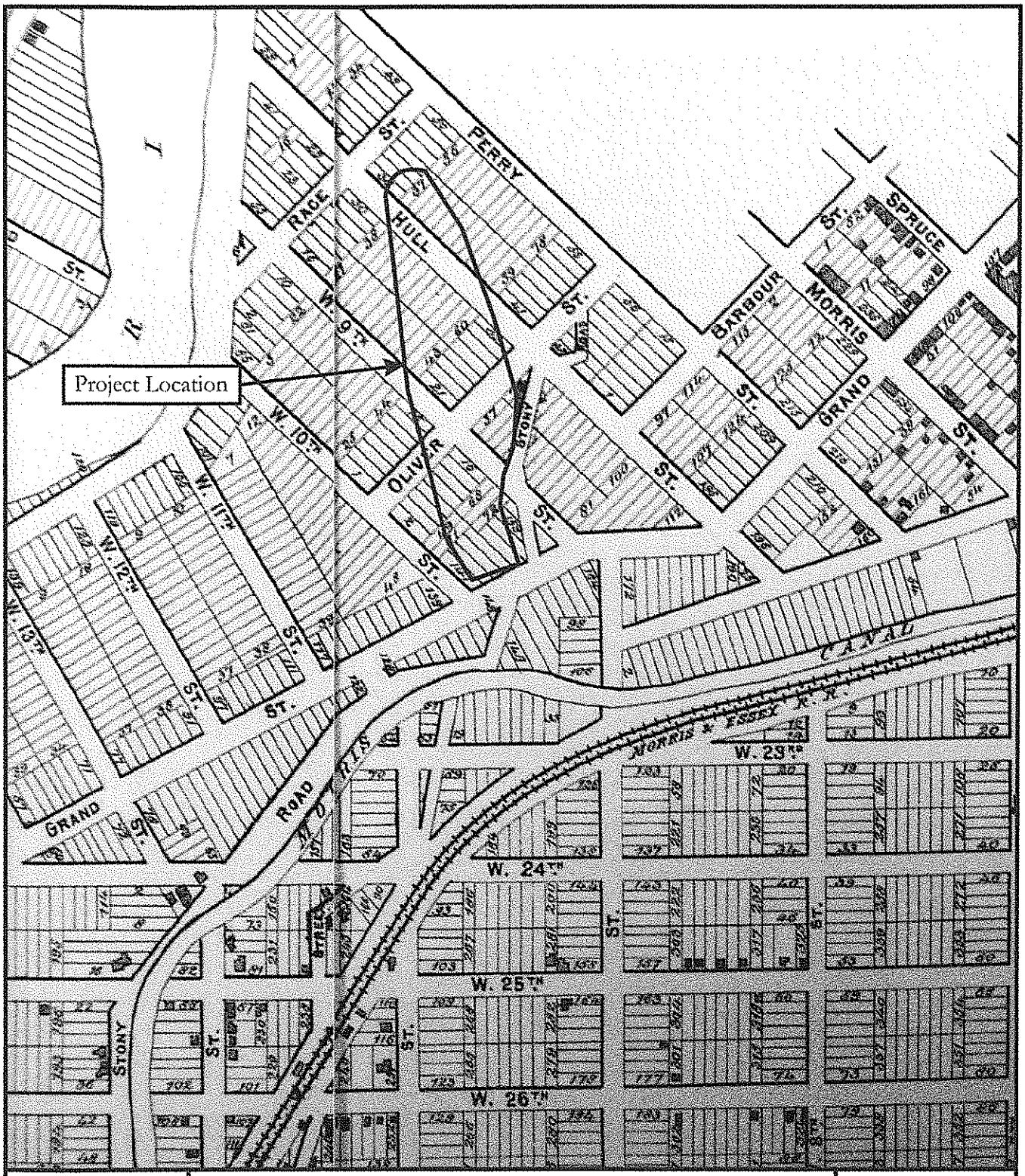


Figure 4.3:

1877 E.B. Hyde & Company, *Atlas of Passaic County, New Jersey.*

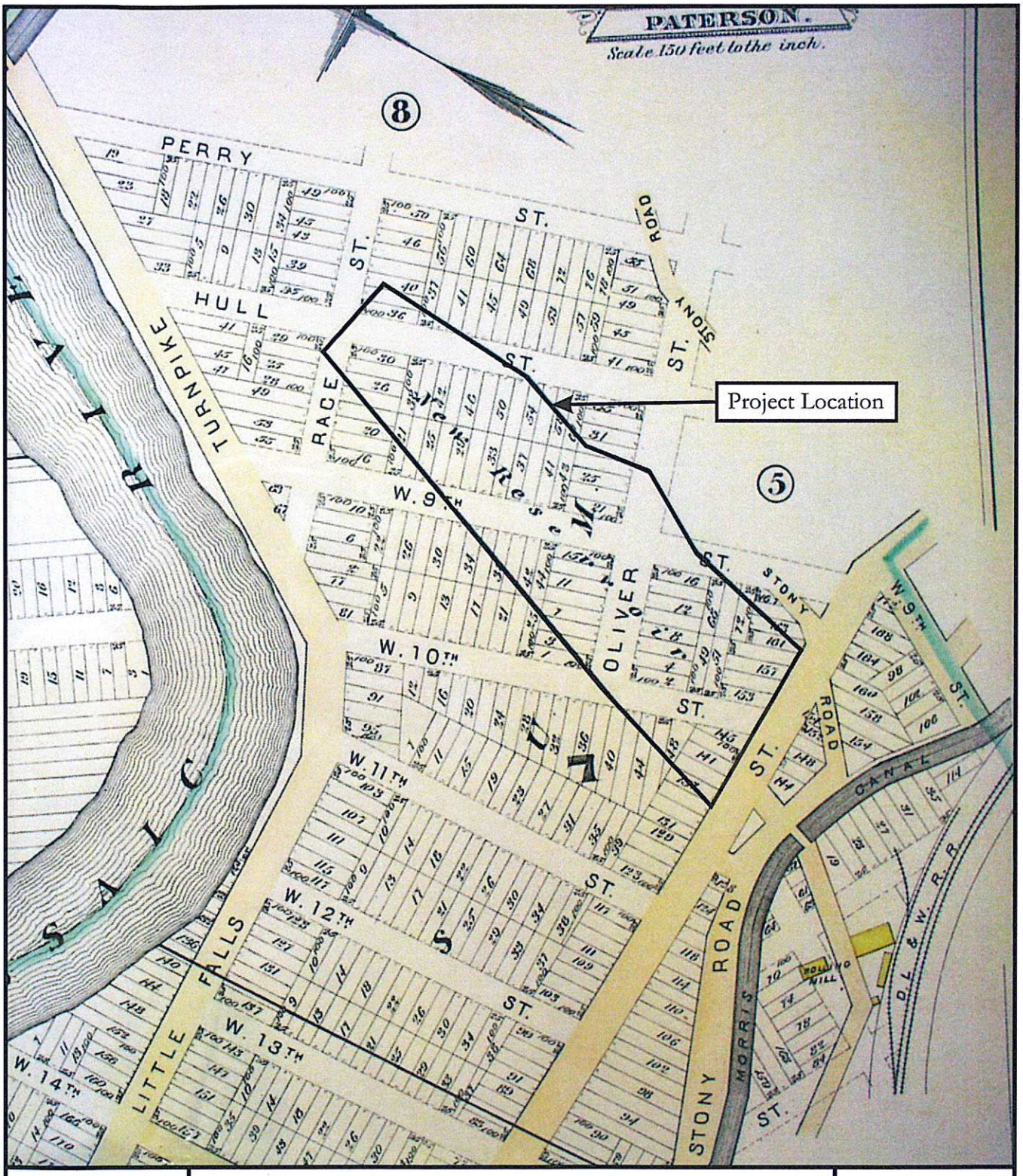


Figure 4.4:

1884 E. Robinson and R.H. Pidgeon, *Atlas of the City of Paterson.*

N E W S

Feet

0 240

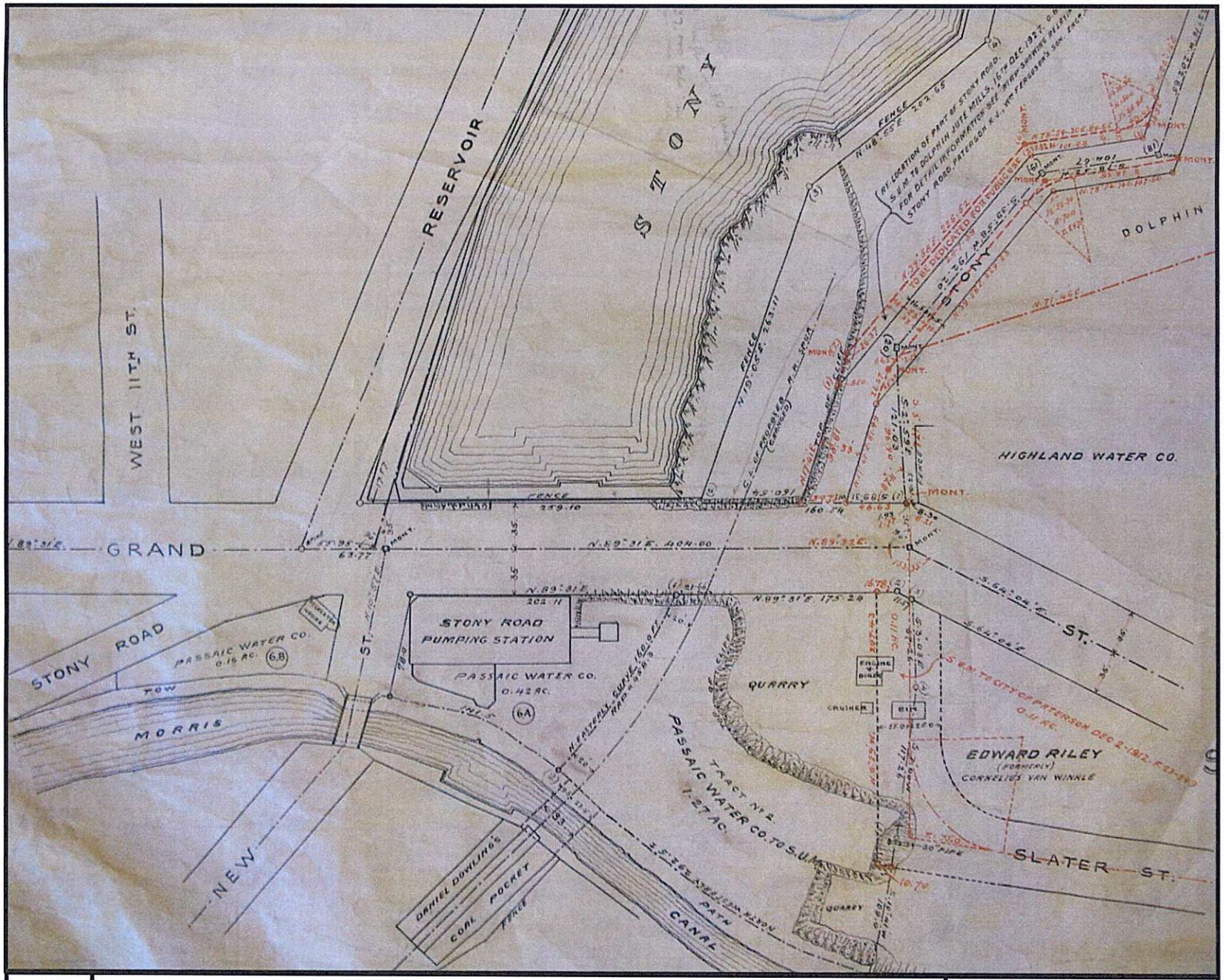


Figure 4.5:

1912 Passaic Water Company, "Plan Showing Property of the Passaic Water Company at Stony Road Reservoir in the City of Paterson, N.J., Conveyed to the S.U.M."

N W E S

Feet

0 100

pumping station was reportedly abandoned three years later for reasons unknown; the building is shown as vacant on the 1915 Sanborn map (Passaic Consolidated Water Company 1924; Sanborn Map Company 1915; Figure 4.6). The regulator house is no longer extant, but the pumping station building remains and is presently the site of a laminating business.

Several parcels surrounding the Levine Reservoir were sold to the Society for Useful Manufactures (SUM) in 1912, but the Passaic Water Company retained possession of the reservoir, which continued to supply water to the city. In 1927, the company was one of several private water suppliers acquired by the Passaic Valley Water Commission (PVWC). The PVWC, in partnership with the North Jersey District Water Supply Commission, subsequently embarked on a program of improvements to the regional water supply system, including construction of the Wanaque Reservoir (PVWC 2010). At the Levine Reservoir, improvements during the early 1930s included construction of a reinforced concrete wall on the reservoir's west side and an outlet chamber on Grand Street (PVWC 1932a, 1932b). A brick pumping station was constructed on the western portion of the site, near Grand Street, around 1970 (NETR 1966, 1979).

A review of historic maps and atlases indicates that APE-Archaeology and surrounding area had not been developed by the mid-eighteenth century (Hills 1781, Figure 4.1). The Great Falls was a recognized landmark, but the closest road and bridge over the Passaic River was located further north. The area remained undeveloped by the mid-nineteenth century although several major roads had been constructed by 1861, including the Little Falls Turnpike, later McBride Avenue, west of the Levine Reservoir and Stony Road east of the reservoir (see Figure 4.2; Hopkins 1861). The topography indicated on that map suggests the area of the APE-Archaeology contained a plateau adjacent to a steep slope or ravine. It is unclear why the area was undeveloped, but may be due to the shallowness of the soil to bedrock as indicated on the soil survey and geologic maps (see Section 3.0). The Morris Canal and Morris & Essex Railroad were constructed by the mid- to late nineteenth century (see Figures 4.2- 4.3). The location of the proposed reservoir is shown on the 1884 Atlas of the City of Paterson overlaid on "paper" streets that do not seem to have been actual built streets since the later pattern of streets is quite different. No structures are indicated. Most of the development at that time was concentrated along the Passaic River in the City of Paterson northeast of the APE-Archaeology. The topography shown on late nineteenth century to twentieth century maps indicates that the reservoir is situated on a gentle rise west of the Passaic River within a steeply sloped area to the east (U.S.G.S. 1887; 1944; Figure 4.7). The Caspers Silk Company mill was located west of the northern portion of the APE-Archaeology in 1915 adjacent to the Passaic River and a smaller structure was located further south (see Figure 4.6). South of Grand Avenue, there was more industrial development by that time. The 1944 U.SG.S. Quadrangle depicts one large structure west

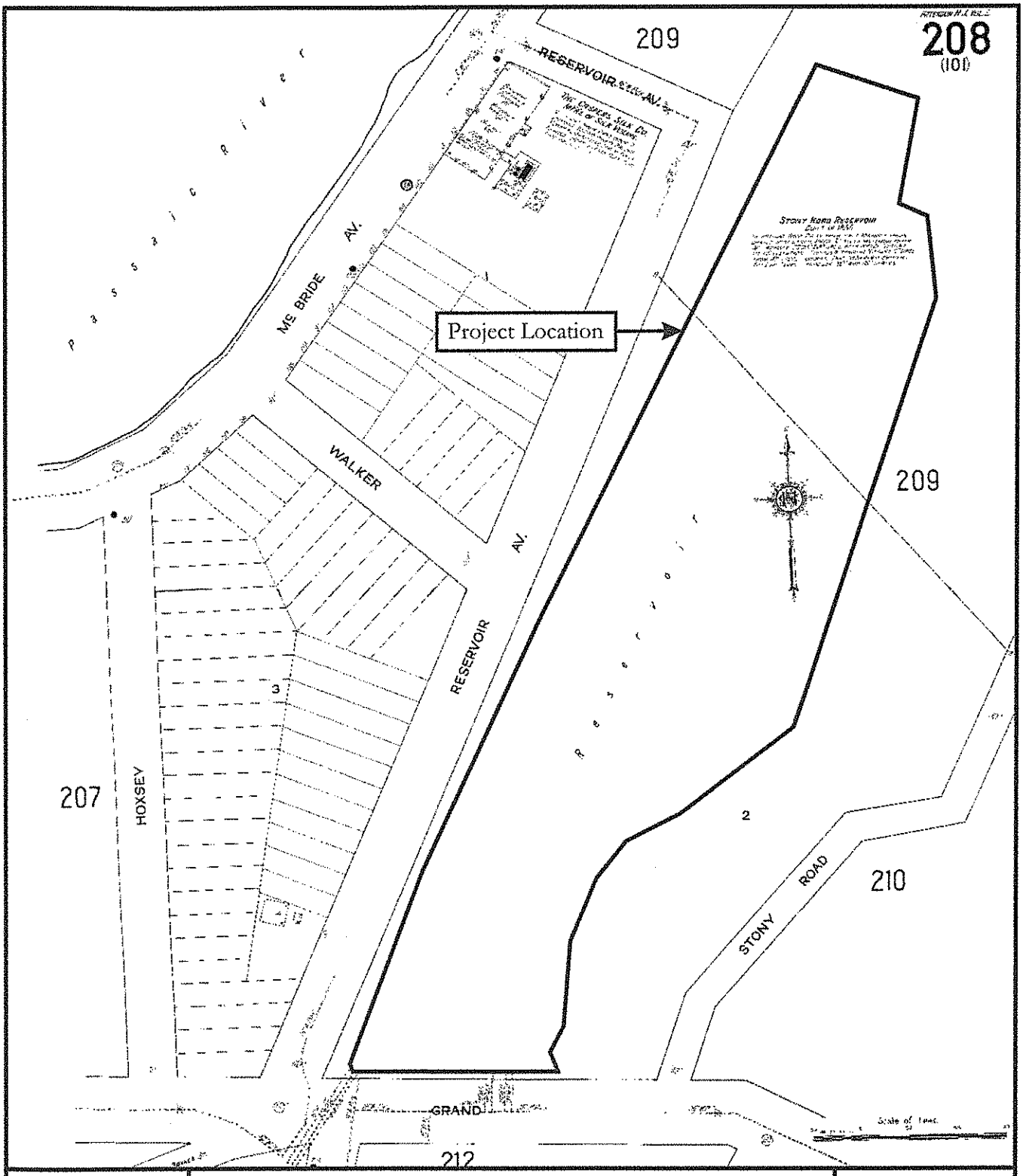


Figure 4.6:

1915 Sanborn Insurance Company,
Map of Paterson, New Jersey.

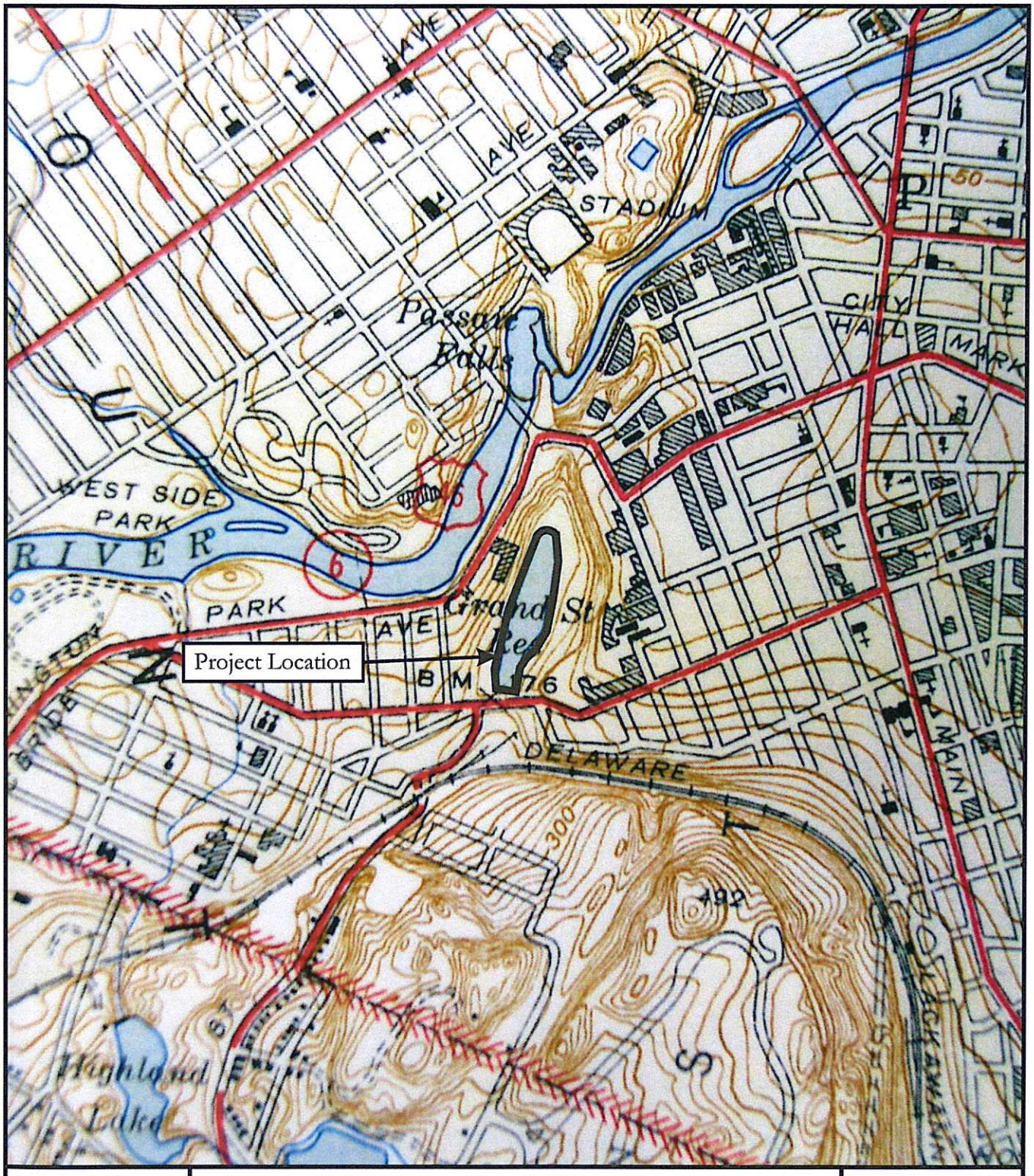


Figure 4.7:

1944 U.S.G.S. 7.5' Quadrangle: Paterson, New Jersey.

of the APE-Archaeology which appears to be extant (see Figure 4.7; U.S.G.S. 1944). During the twentieth century, additional development included the completion of Interstate (I)-80 south of the APE-Archaeology, and additional commercial, residential and industrial development in the vicinity (U.S.G.S. 1955, 1970, 1981, 1995; see Figures 1.1 and 4.7; NETR 1966, 1979).

4.3 Site-Specific Research: Archaeology

New Jersey State Museum Site Files

An examination of the NJSM and HPO site files and other standard references (Cross 1941; Skinner and Schrabisch 1913) indicated that no recorded archaeological sites are located within the APE-Archaeology. Five registered prehistoric sites (28-Pa-11, 28-Pa-14, 28-Pa-33, 28-Pa-165, and 28-Pa-166) and two registered historic sites (28-Pa-151, 28-Pa-152), are located within a one-half mile radius (Table 4.2). Ten additional prehistoric sites are located within one mile. Most were recorded early in the twentieth century and there is little information about them (Cross 1941; Skinner and Schrabisch 1913: 76, 79). Open air camps and rockshelters are represented. Skinner and Schrabisch (1913:76) say that the prehistoric Native American occupation of the City of Paterson and its vicinity had likely been extensive, but they surmised that by the early twentieth century, extensive urbanization had destroyed many of the sites. An example is 28-Pa-176, where buried prehistoric deposits were unearthed in mixed contexts along the Passaic River in Paterson (Richard Grubb & Associates, Inc. 2008).

Table 4.2: Registered archaeological sites within one mile of the APE.

Site	Name/Location	Period	Drainage	Site Type	Reference
28-Pa-10	City of Paterson	Prehistoric	Passaic River	Unknown	Skinner and Schrabisch 1913:76
28-Pa-11	City of Paterson	Prehistoric	Passaic River	Unknown	Skinner and Schrabisch 1913:76
28-Pa-12	City of Paterson	Prehistoric	Passaic River	Unknown	Skinner and Schrabisch 1913:76
28-Pa-13	City of Paterson	Prehistoric	Passaic River	Unknown	Skinner and Schrabisch 1913:76; ISS: 6
28-Pa-14	City of Paterson	Prehistoric	Passaic River	Unknown	Skinner and Schrabisch 1913:76
28-Pa-15	City of Paterson	Prehistoric	Passaic River	Unknown	Skinner and Schrabisch 1913:76
28-Pa-33	None given	Prehistoric	Passaic River	Rockshelter	Skinner and Schrabisch 1913:79
28-Pa-34	City of Paterson	Prehistoric	Passaic River	Rockshelter	Skinner and Schrabisch 1913:79
28-Pa-35	City of Paterson	Prehistoric	Passaic River	Rockshelter	Skinner and Schrabisch 1913:79
28-Pa-43	Little Falls Township	Prehistoric	Passaic River	Artifact scatter	Skinner and Schrabisch 1913:79
28-Pa-44	Little Falls Township	Prehistoric	Passaic River	Campsite	Skinner and Schrabisch 1913:79
28-Pa-151	Rt. 19 Connector	Late 19th-Early 20th century	Passaic River	Domestic site	NJSM; John Milner Associates 1992
28-Pa-152	Rt. 19 Connector	Late 19th-Early 20th century	Passaic River	Domestic site	NJSM; John Milner Associates 1992
28-Pa-165	Garret Rock Shelter	Prehistoric	Passaic River	Rockshelter	NJSM; ISS: 6
28-Pa-166	Monument Knoll	Prehistoric	Passaic River	Unknown	NJSM

Table 4.2; cont.

Site	Name/Location	Period	Drainage	Site Type	Reference
28-Pa-170	Main Street Ford	Prehistoric	Passaic River	Artifact scatter	Skinner and Schrabisch 1913:76
28-Pa-176	CSO 005	Prehistoric	Passaic River	Camp	NJSM; Richard Grubb & Associates, Inc. 2005, 2008

NJSM: New Jersey State Museum; ISS: Indian Site Survey (1939-1941) notebooks on file at the NJSM

Cultural Resources Surveys

A review of files at the HPO indicated that two previous cultural resources surveys have included the APE-Archaeology (Sargent 1978; Warfel 1977a,b,c). The APE-Archaeology was included in studies for the Paterson Demonstration Bikeway (Department of Community Development 1978) and three reports concerning the Great Falls/Upper Raceway Park (Warfel 1977a, 1977b, and 1977c). Sargent (1978) did not perform archaeological testing within the APE-Archaeology, but did perform subsurface testing within portions of the Great Falls Historic District and along Reservoir Street adjacent to the APE-Archaeology. This testing found evidence of late nineteenth century to modern disturbances and did not locate any archaeological resources. The reports concerning the Great Falls/Upper Raceway Park included a proposal and report on archaeological monitoring (Warfel 1977a, b) for the Upper Raceway Cleanup Project, which located two features related to the flume and raceway. Both are near, but not within, the APE-Archaeology. The third report is a management program for the raceway park which determined that the potential for prehistoric resources was low due to prior disturbance, but a recommendation for monitoring was made for work in the vicinity of the raceway (Warfel 1977c).

Twenty one previous cultural resources surveys and investigations have been conducted within a one-half mile radius of the APE-Archaeology (Archaeological and Historical Consultants 2004; Archaeological Research Consultants 1977; Department of Community Development n.d. a, n.d. b; Historic Conservation and Interpretation, Inc. 1979; Hunter Research, Inc. 1999; John Milner Associates, Inc. 1992; Kraft 1976; Louis Berger & Associates, Inc. 1996, 2003; New Jersey Community Development Corporation 1997; New Jersey Department of Transportation 1982; New Jersey School of Architecture 2006; Preservation Resource Group, Inc. 1980; Richard Grubb & Associates, Inc. 1997, 1998, 2000, 2002, 2005, 2006; Rutsch 1998; and URS/Madigan-Praeger, Inc. and John Milner Associates 1980). These cultural resources surveys were performed for a large variety of projects, including wireless telecommunication facilities, road construction, sewer system improvements, a survey of Garret Mountain Park, an archaeological assessment of the City of Paterson, monitoring at the Colt Gun Mill, and studies of individual buildings. The majority of these sruveys did not identify significant archaeological resources. Work performed in advance of the Route 19 and 20 Connectors from I-80 (John Milner Associates, Inc. 1992; New Jersey Department of Transportation; 1981 URS/Madigan-Praeger, Inc. and John Milner Associates 1980) identified a number of early nineteenth century residential and industrial sites and mitigated sites 28-Pa-151 and

28-Pa-152 on Jersey, Ward, and Oliver streets that were part of a historically Irish neighborhood called Dublin (John Milner Associates, Inc. 1992).

National/State Register of Historic Places

There are no archaeological historic properties listed or eligible for the National Register of Historic Places in the APE-Archaeology although it is located within the Great Falls of Paterson/Society of Useful Manufactures (SUM) Historic District, as amended (SR 5/27/1971; NR 4/17/1970; Addendum SR 10/15/1974, NR 1/8/1975; NHL: 5/11/1976).

4.4 Site-Specific Research: Historic Architecture

Known Historic Properties

The Levine Reservoir is located within the Great Falls of Paterson/Society of Useful Manufactures (SUM) Historic District, as amended (SR 5/27/1971; NR 4/17/1970; Addendum SR 10/15/1974, NR 1/8/1975). This district has also been designated a National Historic Landmark (NHL 5/11/1976). Although the reservoir lies within the district boundaries, it is not specifically included in the list of contributing properties. The former bed of the Morris Canal (SR 11/27/1973; NR 10/1/1974) is located just outside of the APE-Architecture, south of Grand Street.

Planning Surveys

One property within the APE-Architecture was included in the 1987 cultural resources survey of the City of Paterson; the Passaic Water Company pumping station (see Appendix B). Located at 138 Grand Street, opposite the Levine Reservoir, the Pumping Station was recommended eligible for the National Register under Criterion C (Paterson Department of Community Development 1987:1608-166).

Regulatory Surveys

In 1977, a cultural resource management program was developed for the Great Falls Upper Raceway Park, which is located east and north of the reservoir property within the Great Falls/SUM Historic District. The study identified historic and archaeological resources that contributed to the historic district located within the proposed park, including one within the APE-Architecture: the Upper Raceway. The significance of the Levine Reservoir was not evaluated in the study (Warfel 1977c).

An archaeological and architectural survey of the Paterson Demonstration Bikeway, conducted in 1978, included the area west of the Levine Reservoir along Reservoir Road. No historic properties were identified within the APE-Architecture for the current project (Sargent 1978:12-15).

SECTION 5.0 ARCHAEOLOGY RESULTS

5.1 Assessment of Archaeological Sensitivity

The assessment of archaeological sensitivity is based on two allied concepts: the potential for archaeological sites to exist in a given area, and the sensitivity of that area to contain intact cultural resources. In areas where no sites are documented, the potential presence of prehistoric resources is based primarily on environmental setting: topography, proximity to water, and soil quality. The potential presence of historic resources is usually determined through analysis of historic sources and historic cartographic materials. The presence of historic roads documented on historic maps also increases the potential for historic sites.

Prehistoric Archaeological Sensitivity

Archaeological evidence indicates that the Piedmont was occupied from the Paleo-Indian times to the present (Chesler 1982). Several studies have been performed analyzing data from previously recorded archaeological sites to formulate predictive models of prehistoric site location. Settlement pattern studies conducted in New Jersey, and elsewhere in the Middle Atlantic Region, have defined areas of well-drained soils in proximity to water as prime loci for prehistoric sites (Cavallo and Mounier 1982; Grossman-Bailey 2001: 136; Ranere and Hansell 1985, 1987; Walwer and Pagoulatos 1990). Areas closest to wetlands are considered zones of highest sensitivity for the location of prehistoric archaeological resources (Hasenstab 1991). According to Pagoulatos (1998: 19), over 50 percent of prehistoric sites in the Passaic River system consist of low density, briefly occupied sites that are used for exploiting specific resources. Larger sites would be anticipated along the main trunk of the Passaic. Sites have also been found in areas further from water, particularly on drainage divides and upland areas (Mounier 1998), but these sites are fewer in comparison to those near watercourses (Cavallo and Mounier 1982). Studies have also demonstrated that prehistoric sites are more apt to be situated in areas with well-drained soils, level topography, historic trails, and a good vantage point (Pagoulatos and Walwer 1991).

Based on the results of these predictive studies, areas retaining a natural, undisturbed soil profile in well-drained upland settings within 300 feet of a perennial water source or wetlands are assessed as having a high potential to contain prehistoric resources. The APE-Archaeology is within 400 feet of the Passaic River. Besides being located in proximity to wetlands, the predictive models also note that sites are most likely to be located on well-drained soils. The soils in the APE-Archaeology are Holyoke-Rock outcrop complex and Rock outcrop-Holyoke complex, both consisting of varying amounts of basalt rock outcrop and shallow, but well drained soils. Both are found on gradual to steep slopes. Despite its proximity to the Passaic River, the steep slopes and thin soil in the APE-

Archaeology suggests it has a low potential for significant prehistoric resources. Prior to reservoir construction, the greatest potential for such resources may have consisted of rockshelter sites.

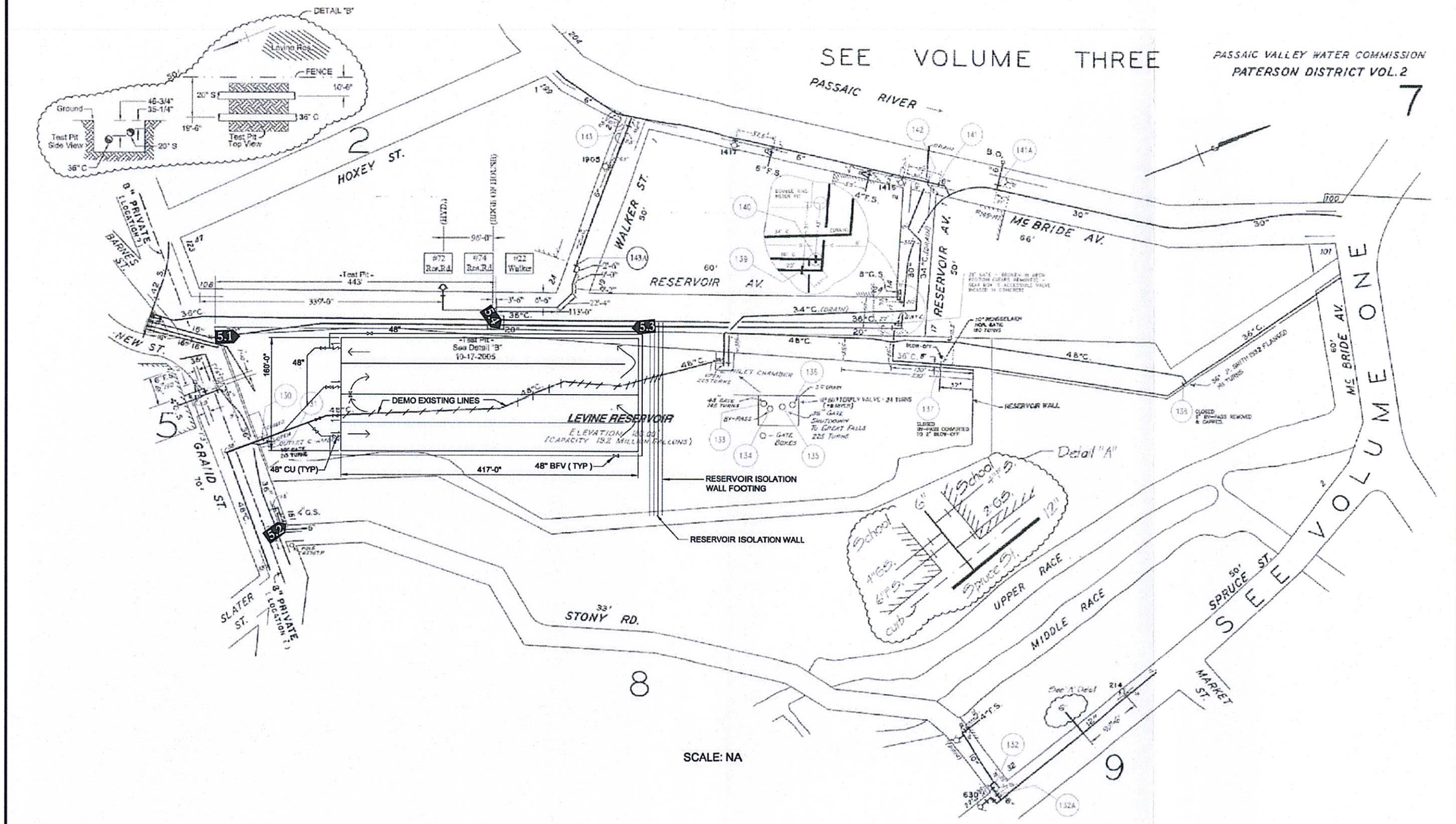
Historic Archaeological Sensitivity

The likelihood for historic archaeological resources to exist within the APE-Archaeology is low. No structures, other than the Levine Reservoir, are depicted within the APE-Archaeology on historic maps and atlases (Hills 1781; Hopkins 1861; E. B. Hyde & Company 1877; Robinson and Pidgeon 1884; U.S.G.S. 1887; 1912 Passaic Water Company 1912; Sanborn Insurance Company 1915; U.S.G.S. 1944, 1955, 1970, 1981, 1995; see Figures 4.1 - 4.7). The area was undeveloped and possibly steeply sloped in the mid-nineteenth century (see Figure 4.2). Although streets are depicted on 1877 and 1884 maps, no structures are indicated. It seems likely these streets were not built. The reservoir was built in 1885 west of existing Stony Road and streets, such as Reservoir Road, built in relation to it. The reservoir appears to have been excavated into a basalt bedrock outcropping. Based on the background research, the APE-Archaeology is considered to have a low sensitivity for significant historic archaeological resources.

5.2 Archaeological Reconnaissance

A pedestrian survey of the APE-Archaeology was conducted by Laura Cushman (project archaeologist) on May 20, 2010 to assess its potential to contain significant archaeological resources. The APE-Archaeology is located within and immediately surrounding the Levine Reservoir (Figure 5.1; Plates 5.1-5.4). The project impacts are not known, but the accessible portions of the APE-Archaeology were examined. The reservoir is on a flat area that is steeply sloped to the east (see Plates 5.1 and 5.4) down to Stony Road with a gentler slope to the west toward a residential area and the Passaic River. The reservoir appears to have been excavated from basalt bedrock and the bedrock could be observed under the water (see Plates 5.1-5.4). The surrounding bank and access path are located on fill on top of bedrock (see Plate 5.1). The APE-Archaeology includes deciduous trees (oak and pine), and manicured grass vegetation.

Based on the topographic setting, background research, and the site visit, the APE-Archaeology was assessed to have a very low potential for historical archaeological and prehistoric archaeological resources. It is unlikely that any archaeological historic properties will be affected by the proposed undertaking.



PRELIMINARY
NOT RELEASED
FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

DESIGNED CR
DRAWN MJS
CHECKED
DATE April 2010
ENGINEER

1 Photo Location and Direction

PASSAIC VALLEY WATER COMMISSION
FIGURE 18
LEVINE RESERVOIR

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8378A.00
DRAWING NO.
SHEET NO.
OF

RGA

Figure 5.1:

Archaeology Photograph Location Map.

N W E S
Feet
0 140

Plate 5.1:

The APE-Archaeology from Grand Street. Note the fill and piping to the left and view of bedrock beneath the water.
Photo view: North
Photographer: Laura D. Cushman
Date: May 20, 2010

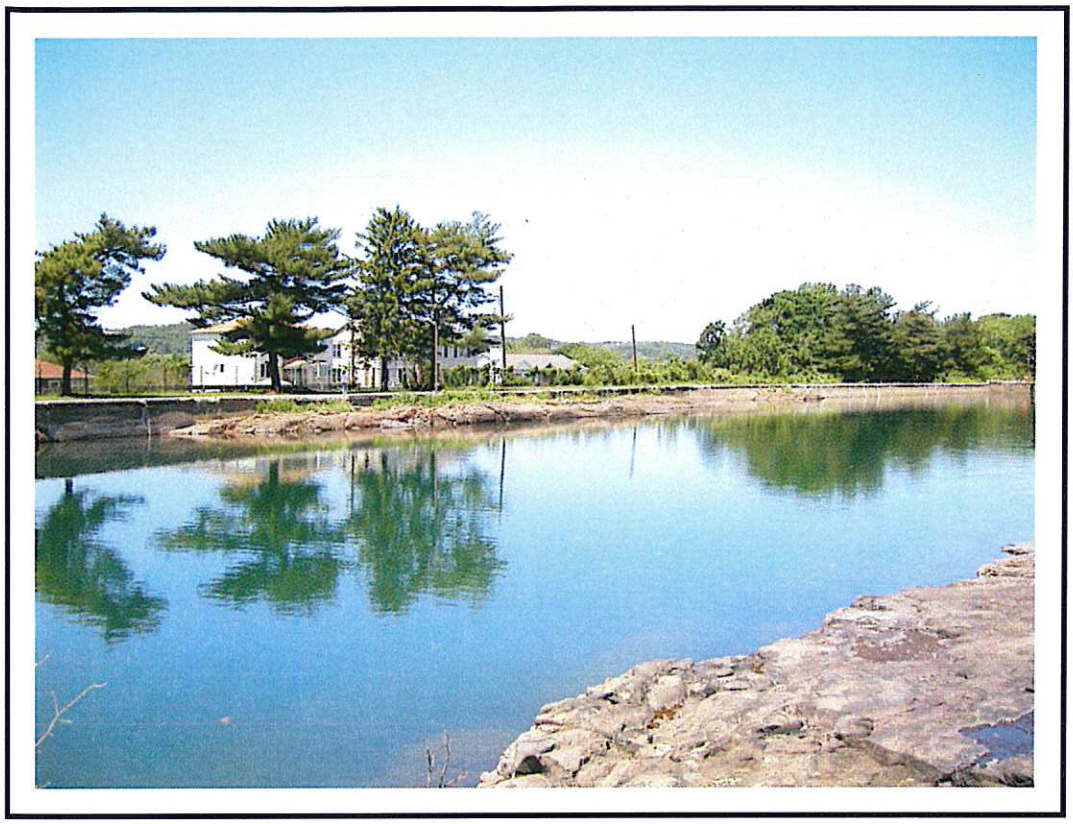


Plate 5.2:

The APE-Archaeology showing structures to the west.
Photo view: Northwest
Photographer: Laura D. Cushman
Date: May 20, 2010

Plate 5.3:

The APE-Archaeology showing the pumping station to the south.
Photo view: Southeast
Photographer: Laura D. Cushman
Date: May 20, 2010

Plate 5.4:

Facing east toward the steep slope adjacent to Stony Road.
Photo view: East
Photographer: Laura D. Cushman
Date: May 20, 2010