## 2.5-1 INTRODUCTION

This section of Chapter 2 discusses the potential impacts to historic and archaeological resources that could result during construction of Project 1, Shaft and Bypass Tunnel Construction. As described in greater detail below, construction activities have the potential to disturb buried archaeological resources if they are present and may also affect historic standing structures.

## 2.5-2 METHODOLOGY

### 2.5-2.1 REGULATORY CONTEXT

This section of Chapter 2 was prepared in accordance with the New York State Historic Preservation Act (SHPA) of 1980, as set forth in Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. The analyses have also been prepared in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA). These laws require that state and federal agencies, respectively, consider the effects of their actions on any properties listed on or determined eligible for listing on the State and National Registers of Historic Places (S/NR). These laws require the opportunity for public comment on Project 1's impacts on cultural resources.

#### *NATIONAL HISTORIC PRESERVATION ACT – SECTION 106*

Project 1 may require a permit (or permits) from the U.S. Army Corps of Engineers for several aspects of the project (see Chapter 1, "Program Description"). This action would be subject to Section 106 of the NHPA of 1966.

Section 106 of the NHPA as implemented by federal regulations appearing at 36 Code of Federal Regulations (CFR) Part 800 mandates that federal agencies consider the effect of their actions on any properties listed on or determined eligible for listing on the National Register of Historic Places (NR). Federal agency preservation officers, in consultation with the State Historic Preservation Officer (SHPO), must determine whether a proposed action would have any effects on the characteristics of a site that qualify it for the S/NR. Revised Section 106 regulations were published on May 19, 1999. The basic steps of the Section 106 process, as revised, are as follows:

- The Section 106 process is initiated when the federal agency determines that a proposed action is an undertaking. Federal undertakings include those carried out by or on behalf

of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency.

- As part of the initiation of the Section 106 process, the federal agency must identify the appropriate SHPO (or SHPOs if more than one state is involved) and consult with the SHPO in a manner appropriate to the federal agency planning process for the proposed undertaking. In addition, in consultation with the SHPO, the federal agency must identify any other parties entitled to be consulting parties, including, as appropriate, Indian tribes, and invite them to participate as such in the Section 106 process.
- All properties that may be affected in the project's Area of Potential Effect (APE)—i.e., the area where potential project effects may occur—and that are included in or eligible for the NR must be identified, in consultation with the SHPO. If properties are identified that may be eligible for the NR, but for which no determination has yet been made, the agency consults with the SHPO to determine eligibility or ineligibility.
- If there are S/NR-listed or S/NR-eligible properties (collectively, historic properties), the potential effect of the proposed project on each property must be evaluated, in conjunction with the SHPO, to determine if the project would have adverse effects on them. To determine whether potential adverse effects on the historic properties would occur, the Advisory Council's Criteria of Adverse Effect must be applied, in consultation with the SHPO. In general, a proposed project is deemed to have an adverse effect on a historic property if it would cause a change in the quality of the property that qualifies it for inclusion in the S/NR. The Advisory Council must be notified of any findings of adverse effects.
- If the analysis indicates that the proposed project would have an adverse effect on a historic property, the SHPO and other consulting parties (discussed above in the consultation process) are consulted to seek agreement on ways to avoid or reduce the effects. An agreement regarding the mitigation measures that will be implemented is typically effectuated through either a Memorandum of Agreement (MOA) or Programmatic Agreement between the applicant, the SHPO, and the federal agency. The Advisory Council may choose to participate in the consultation when there are substantial impacts to historic properties, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Indian tribes or Native Hawaiian organizations. The Advisory Council must be invited to participate when the federal agency sponsoring the project wants the Council's involvement, when the project would have an adverse effect on a National Historic Landmark, or when a Programmatic Agreement will be prepared.
- Programmatic Agreements are used when effects on historic properties are similar and repetitive or are multi-state or regional in scope; or when effects on historic properties cannot be fully determined before approval of an undertaking, or when non-federal parties are delegated major decision-making responsibilities, among other reasons.

- Execution of the MOA or Programmatic Agreement and implementation of its terms satisfies the requirement of Section 106 that the Advisory Council be given a reasonable opportunity to comment on the undertaking as well as demonstrates that the federal agency has taken into account the effects of the action.

Since Project 1 may be subject to Section 106 review, appropriate APEs, or study areas, for the identification and analysis of potential impacts on archaeological and historic resources have been established, and archaeological and architectural properties have been identified within those study areas as described in greater detail below.

### *STATE HISTORIC PRESERVATION ACT—SECTION 14.09*

Project 1 would require approvals and permits from state agencies including SPDES permits from the New York State Department of Environmental Conservation. SHPA closely resembles NHPA and requires that state agencies consider the effect of their actions on properties listed on or determined eligible for listing on the State Register of Historic Places (SR). Compliance with Section 106 satisfies the requirements of SHPA, set forth in Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law.

## 2.5-2.2 IDENTIFYING CULTURAL RESOURCES

Cultural resources can include archaeological remains from Native American people who used or occupied a site, including tools, refuse from tool-making activities, habitation sites, etc. These resources are also referred to as “precontact,” since they were deposited before Native Americans’ contact with European settlers. Archaeological resources can also include remains from activities that occurred during the historic period (beginning with European settlement of the area) that include European contact with Native Americans, as well as battle sites and foundations. Cultural resources also include significant built resources, such as structures, buildings, and objects (“historic resources”).

In general, cultural resources consist of those properties that have been determined eligible for listing on, or have been listed on the NR. Criteria for inclusion on the NR are listed in the Code of Federal Regulations, Title 36, Part 63 (“known historic resources”). Districts, sites, buildings, structures, and objects are eligible for the NR if they have integrity of location, design, setting, materials, workmanship, feeling and association, and:

A. Are associated with events that have made a significant contribution to the broad patterns of history;

B. Are associated with significant people;

C. Embody distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. May yield [archaeological] information important in prehistory or history.

Properties less than 50 years old are ordinarily not eligible, unless they have achieved exceptional significance. Determinations of eligibility are made by the SHPO of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP).

A survey was also undertaken for Project 1 to identify properties in the potentially affected areas both west and east of the Hudson River (described in greater detail below) that appear to meet the above listed criteria but have not been reviewed for eligibility by OPRHP. Properties identified in this category are described below as "potential historic resources."

## 2.5-2.3 AREA OF POTENTIAL EFFECT/STUDY AREA DELINEATION

The evaluation of historic and archaeological resources considers a project's effect in the APE, which is the study area for the analysis.

The APE for archaeological resources is the area that would be disturbed for project construction. For Project 1, the APE has been defined as the west and east connection sites and the route of the water main extension and dewatering pipeline west of the Hudson River. The depth of the proposed tunneling would be below that where any archaeological resources could be located and, therefore, an APE for the bypass tunnel was not identified. In response to an information request letter dated December 22, 2010, SHPO identified the west connection site as potentially archaeologically significant. In a letter dated January 11, 2011, SHPO requested that a Phase 1A Archaeological Survey be prepared for the APE (see **Appendix 2.5**). The conclusions of the Phase 1A report are summarized below under section 2.5-3.1, "Existing Conditions—West of Hudson," and section 2.5-4.1, "Existing Conditions—East of Hudson."[1]

In general, potential effects on historic resources can include both direct physical effects—demolition, alteration, or damage from nearby construction, such as from construction vibration—and indirect effects—the isolation of a property from its surrounding environment or the introduction of visual, audible, or atmospheric (e.g., pollutants) elements that are out of character with a property or that alter its historic setting and context (e.g., contextual effects). Significant adverse effects can occur if a project would cause a change in the quality of a property that qualifies it for inclusion in the S/NR. Physical, or direct, effects generally have the potential for impacts in a smaller geographic area than contextual or visual effects.

Due to the depth of the proposed bypass tunnel, the proposed tunneling activities for the bypass tunnel would not have the potential to result in construction-related impacts, such as ground-borne vibration, and, therefore, an APE for this project element was not identified. Since construction at the west and east connection sites would require tree removal and grading to allow for project construction and would change the appearance of these sites, the APE for historic resources has been defined as the area within approximately 400 feet of the west and east

[1] Phase 1A Archaeological Survey: Delaware Aqueduct Rondout-West Branch Tunnel Repair Program. Newburgh, Orange County, NY, and Wappinger, Dutchess County, NY. OPRHP Review Number 11PR00021. Prepared for the New York City Department of Environmental Protection, December 19, 2011.

connection sites. Beyond this distance, views would be at a greater distance, with intervening trees, vegetation, and other structures limiting views.

As the water main extension and dewatering pipeline would require temporary construction to construct the water main and pipeline underground, the APE for these two project elements is limited to potential direct physical effects, and as such the APE has been defined as those properties fronting onto the affected construction areas. Within those APEs, an inventory of historic resources was compiled. **Figure 2.5-1** shows the APE boundaries and historic resources identified within the APE. The definition of the APEs for archaeological and historic resources conforms to the methodology presented in a letter from DEP to SHPO dated December 22, 2010, initiating consultation on Project 1 (see Appendix 2.5).

Once the resources in the archaeological and historic resources APEs were identified, Project 1 was assessed for its potential for direct physical impacts on archaeological and historic resources and indirect contextual impacts on historic resources.

## 2.5-3 WEST OF HUDSON

### 2.5-3.1 EXISTING CONDITIONS—WEST OF HUDSON

#### *HISTORIC RESOURCES*

#### *West Connection Site and Water Main Extension/Dewatering Pipeline*

There are no known historic resources located on the west connection site. The site contains undeveloped land, a vacant commercial property, and two vacant residential properties. The commercial property is occupied by a one-story former restaurant and bar constructed in the mid-20th century.[2] It is not particularly distinguished and does not meet criteria for S/NR listing.

The northernmost residential property at 5511-5517 Route 9W (tax parcel 8-1-16) contains a house, two outbuildings, and several trailers. The house is a two-story farmhouse with a gable roof and is clad in vinyl siding. The house has a one-story enclosed addition on its west façade and an open one-story wood porch on its south façade. The windows are mostly six-over-six pane double-hung sash and appear to be replacements. The house appears to date to circa 1870-1880 and appears to be shown on a Beers 1891 atlas, which is the first map of the area to clearly depict structures on the west connection site. The Beers map indicates the property was owned by Dennis McCarty (also spelled “McCarthy”), a farmer. Property records on file with Orange County indicate a construction date of 1860.[3] However, the absence of any structures shown in this area on maps dating to 1864 and 1875 maps suggests that this date may be inaccurate.[4]

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[2] http://propertydata.orangecounty.gov.com/imate/index.aspx gives a construction date of 1940.

[3] http://propertydata.orangecounty.gov.com/imate/index.aspx

[4] *Phase 1A Archaeological Survey*, December 19, 2011.

West Connection Site

Dewatering Pipeline Option 1

Dewatering Pipeline Option 2

Water Main Extension

Dewatering Pipeline Area of Potential Effect (100-Foot Perimeter)

West Connection Site Area of Potential Effect (400-Foot Perimeter)

**Potential Historic Resources:**

1. 5495 Route 9W
2. House and Barn at 51 Old Post Road
3. House or River Road
4. Our Lady of Mercy Church, 977 River Road

0 400 1000 FEET

SCALE

Figure 2.5-1

## West Connection Site and Dewatering Pipeline: Potential Historic Resources

The northernmost outbuilding on the site is a timber framed barn that also appears to date to the same time period and may have been constructed as a horse or carriage barn. The outbuilding west of the house is a nondescript structure primarily constructed of cinderblock that postdates the construction of the house and barn. Though the house and barn are part of the mid- to late-19th century agrarian history of the area, the house has been significantly altered and has lost historic and architectural integrity. As such, it does not meet eligibility criteria for listing on the S/NR. The barn does not contain hand-hewn timbers or other significant characteristics that would qualify it as individually eligible for S/NR listing separate from the residence.

The southernmost residential property at 5503 Route 9W (tax parcel 8-1-15.3) contains a residence and a small contemporary shed. The house is two and a half stories with a gable roof, open porches on its primary east façade and the north façade, vinyl siding, and replacement windows. The house also has a turret capped by a weathervane and a stained-glass window near the front entrance. Property records on file with Orange County indicate that the house was constructed in 1900. However, it is possible that this house may be a structure depicted on the 1891 Beers atlas within the boundaries owned by the Flannery family.[5]

The house appears to have been recently altered with new porches and additions at the rear, as is also indicated in property records on file with Orange County.[6] Real estate listings indicate that the house has been altered with an “inlaw suite” with a separate bathroom and kitchen, which may be contained in the rear addition.[7] These additions and alterations have modified the structure such that it does not possess sufficient integrity to meet S/NR eligibility criteria.

The water main extension and the two options for the route of the proposed dewatering pipeline are located in paved roads and undeveloped areas and as such do not contain any historic structures.

### *Area of Potential Effect*

*West Connection Site*

No known historic resources have been identified in the APE for the west connection site. One potential historic resource, a residence and barn at 5495 Route 9W located south of the west connection site, has been identified in the APE. This property consists of a two-story house and a one- to two-story barn/garage (see Figure 2.5-1 Resource No. 1 and **Figure 2.5-2**). The house is the northernmost structure on the property and is located approximately 300 feet from the west connection site. The house is set back approximately 50 feet from Route 9W, with the barn at the rear of the property along Pine Road, approximately 125 feet from Route 9W. The gabled house

[5] Ibid.

[6] http://propertydata.orangecounty.gov.com/imate/index.aspx

[7] http://www.wellcomemat.com/video/NY/Newburgh/house-for-sale/FD5132DCDBAPT/ [accessed June 9, 2011] http://www.zillow.com/homedetails/5503-Route-9w-Newburgh-NY-12550/2145157712_zpid/ [accessed June 9, 2011]

House at 5495 Route 9W **1a**

Garage/Barn at 5495 **1b**

Figure 2.5-2

**West Connection Site: Dewatering Pipeline - Potential Historic Resources - 5495 Route 9 W**

has bracketed eaves, decorative wood window frames, a corbelled central chimney, and front and side porches with decorative millwork. The house possesses high integrity with the exception of what appears to be asbestos cladding, which is assumed to be reversible. South of the house is a two-story wood barn with a one-story garage. The house and barn appear to date to circa 1880, though they do not appear on the 1891 Beers atlas. The property possesses historic and architectural significance and appears eligible for S/NR listing under Criteria A and C.

*Water Main Extension and Dewatering Pipeline*
Four potential historic resources have been identified in the APEs for the water main extension and dewatering pipeline.

Three potential historic resources have been identified in the APE for Option 1. These include the property at 5495 Route 9W, described above, and two additional properties:

- Residential property at 51 Old Post Road. This property consists of a two-story house and a detached barn/garage (see Figure 2.5-1 Resource No. 2 and **Figure 2.5-3**). The house is set back approximately 40 feet from Old Post Road on a rise. The house is one and a half stories and clad in clapboard. The house has a large central roof dormer and a front porch with paired columns set on brick piers. It appears that the ground-floor windows facing Old Post Road have been altered, but otherwise the house possesses both historic and architectural integrity. The barn is located along the side of Old Post Road just west of the house. It is set on a stone rubble foundation and clad in wood with a gable roof. The 1891 Beers atlas shows two structures in the approximate location of the house. These structures are located on property owned by D. Allerton and Mrs. Ryan. Property records on file with Orange County indicate that the house was built in 1925.[8] The barn appears to be a late-19th or early 20th century carriage barn or stable built sometime between 1890 and 1920. The property possesses historic and architectural significance and appears eligible for S/NR listing under Criteria A and C.
- Residential property on River Road just west of the Central Hudson Gas & Electric (CHG&E) property. This property consists of a two-story house with a gable roof, set back approximately 20 feet from River Road (see Figure 2.5-1 Resource No. 3 and **Figure 2.5-4**). The house appears to date to 1870, although property records on file with Orange County for this tax lot indicate a residence was constructed in 1900.[9] However, a structure in this approximate location is depicted on the 1875 Beers atlas as property owned by the Lodge family. A structure is similarly depicted on the 1891 Beers map, and at this time the structure is situated on a large parcel owned by the Rose Brick Company.

[8] Ibid

[9] http://propertydata.orangecounty.gov.com/imate/index.aspx. Tax Lot 8-2-38.2 contains two structures, the subject house along River Road and also a residence fronting on Old Post Road. It is not clear to which structure the 1900 construction date pertains.

House at 51 Old Post Road **2a**

Barn at 51 Old Post Road **2b**

Figure 2.5-3

**West Connection Site: Dewatering Pipeline - Potential Historic Resources - 51 Old Post Road**

House on River Road west of CHG+E property **3**

Our Lady of Mercy Church, 977 River Road **4**

Figure 2.5-4

**West Connection Site: Dewatering Pipeline - Potential Historic Resources**

Though the house has been altered with new windows, the porch altered, and a chimney reconstructed or built anew on the north façade, the house retains a mid- to late-19th century character and may possess historical significance if associated with the Rose family and Rose Brick Company (described in greater detail below) under Criterion B.

The property at 5494 Route 9W is also located in the APE for the water main extension extending from the west connection site to Old Post Road.

Four potential historic resources have been identified in the APE for Option 2. These include the three properties described above for Option 1 and one additional potential historic resource located on River Road south of where River Road and Danskammer Road diverge:

- Our Lady of Mercy Church at 977 River Road, set back approximately 75 feet from River Road (see Figure 2.5-1 Resource No. 4 and Figure 2.5-4). Constructed in 1891, it is the only major building that survives from the company town of Roseton. Roseton was founded by John C. Rose, who built one of the first brickyards in the area in 1884 and gave the town its name. The Rose Brick Company brickyard and town were located along the Hudson River.[10] Roseton had housing for its workers, churches, a post office, a commons building, a schoolhouse, and a grocery store. Almost the entire town was demolished when CHG&E purchased the Rose Brick Company land, including its brickyard, to construct power plants. The brickyard is now the site of the Hess Oil Terminal. Our Lady of Mercy Church was commissioned by the wife of brick maker Juan Jova. Juan Jova also constructed a large brickyard at about the same time as the Rose family between River Road and the Hudson River (much of this land is now owned and occupied by the Dynegy plant). The chapel was constructed on land owned by the Jovas on the west side of River Road and built of brick manufactured by the Jova brickyard. It has a steeple, pointed arched window openings, stained-glass windows, and high architectural integrity. The church is historically significant and appears eligible for S/NR listing under Criterion A as a remnant of Roseton, a town that was home at the turn of the 20th century to at least a thousand people who made a living at the Rose and Jova brick making companies. It also appears to meet Criterion B for its association with the Jova family and brick manufacturing, one of the major industries along the Hudson River. Bricks manufactured at the Rose and Jova brickyards were used in the construction of such significant structures in New York City as the former Singer Tower, the Empire State Building, the Waldorf Astoria Hotel, the main branch of the New York Public Library on East 42nd Street, and the Customs House at Bowling Green. The church is also architecturally significant and appears to meet Criterion C as an intact example of late-19th century Gothic style architecture.

[10] Sources regarding the history of Roseton and our Lady of Mercy Chapel reviewed include *Lost Towns of the Hudson Valley*, by Wesley and Barbara H. Gottluck, The History Press, 2009 and http://brickcollecting.com/roseton.htm [accessed June 9, 2011].

## *ARCHAEOLOGICAL RESOURCES*

As mentioned in section 2.5-2.2, archaeological resources include those dating to both the precontact (Native American) and historic periods. In August 2011, a Phase 1A Archaeological Study of the west connection site and dewatering pipeline route was prepared. The report followed the standards and guidelines of the SHPO (2005) and the New York Archaeological Council (NYAC, 1994), which were adopted by SHPO in 1995. The study is being submitted to SHPO for review and comment as part of the publication of this EIS. The findings of this Phase 1A Archaeological Study are summarized below.

### *Precontact Archaeological Resources*

The precontact period refers to the time when the area was inhabited by Native Americans, prior to the discovery and settlement of New York by European colonists in the 16th and 17th centuries. The precontact sensitivity of a project site is generally evaluated by the presence of high, level ground (with less than 12 to 15 percent slopes), freshwater courses, well-drained soils, and close proximity to previously identified precontact archaeological sites. Precontact archaeological resources are generally found at shallow depths.

To determine which portions of the study area were most likely to contain precontact archaeological resources, the site files of the SHPO and the New York State Museum (NYSM), previous cultural resources assessments, and published accounts were searched for information regarding archaeological sites that have been identified within the west connection site and dewatering pipeline route and within a surrounding one-mile radius. In addition, several 20th-century works documenting Native American sites in New York State were consulted.

*West Connection Site*

A large portion of the west connection site is covered with steeply sloping (15 percent or more) land and bedrock is very shallow in portions of the site, especially along the northern and eastern sides. A comparison of historic and current topographic maps suggests that the landscape of the west connection site has not been significantly modified since the late 19th century, although some areas appear to have been graded. A stream runs through and in the vicinity of the west connection site.

No precontact archaeological sites have been previously identified in the immediate vicinity of the west connection site, although several have been identified along the Hudson River to the east. Of the sites located within the study area, several were within or near Danskammer Point, a projection of land on the western side of the Hudson River within what is now the Dynegy property. According to the site files at SHPO and NYSM, an Indian path and campsite were formerly located in this area and there is evidence to suggest that the area may have had ritual significance as a dance chamber. Danskammer Point is now the location of a power plant. Finally, no precontact archaeological resources were identified during a Phase 1 survey of a portion of the west connection site (2011) in advance of the completion of three deep

geotechnical soil borings in the area.[11] The APE identified for the three soil borings was a small, 0.66-acre portion of the west connection site located near the site's center north of the existing dirt path that crosses the site. The Phase 1 investigation of this portion of the west connection site determined that it has no archaeological sensitivity. SHPO concurred with this finding in comments dated June 14, 2011 (SHPO Project Review Number 11PR00021, see Appendix 2.5).

Based on the original topography of the area, it is possible that Native Americans occupied a portion of the west connection site during the precontact period, possibly as a seasonal campsite. Those areas where the slope is greater than 15 percent are not considered to be sensitive for precontact archaeological resources. Areas where bedrock is very shallow or exposed are also not considered to be sensitive for precontact archaeological resources. The portion of the west connection site that was previously studied in a separate Phase 1 Archaeological Study associated with the completion of the three deep geotechnical borings on the west connection site also has no precontact archaeological sensitivity.

Therefore, the west connection site has been determined to have low to moderate sensitivity for precontact archaeological resources except in the locations of steep slopes and exposed bedrock and in the APE for the three geotechnical borings that has been previously analyzed (see **Figure 2.5-5**). Potential archaeological deposits associated with a potential campsite on this property could include such items as stone tools and debitage, faunal remains, shell middens, fire-cracked rock, and other evidence of the daily activities of the area's native inhabitants.

*Water Main Extension and Dewatering Pipeline*

The water main extension and dewatering pipeline Options 1 and 2 are identical between the beginning at the west connection site and Old Post Road, and Options 1 and 2 are identical along Old Post Road to the divergence of River and Danskammer Roads. This shared section of the water main extension and two proposed pipeline routes has been previously disturbed by grading associated with road construction and would have experienced some disturbance as a result of the installation of existing utilities. In several locations, the dewatering pipeline would be located in undeveloped areas outside of the roadbed. The Phase 1A study determined that the paved portions of the roadbed are disturbed and are therefore not sensitive for precontact archaeological resources. However, certain level (slopes less than 12 to 15 percent), unpaved areas adjacent to the road surface were determined to have low to moderate sensitivity for precontact archaeological resources. Areas with slopes greater than 12 to 15 percent or that were previously disturbed by the installation of utilities or utility poles were determined to have no sensitivity for precontact archaeological resources.

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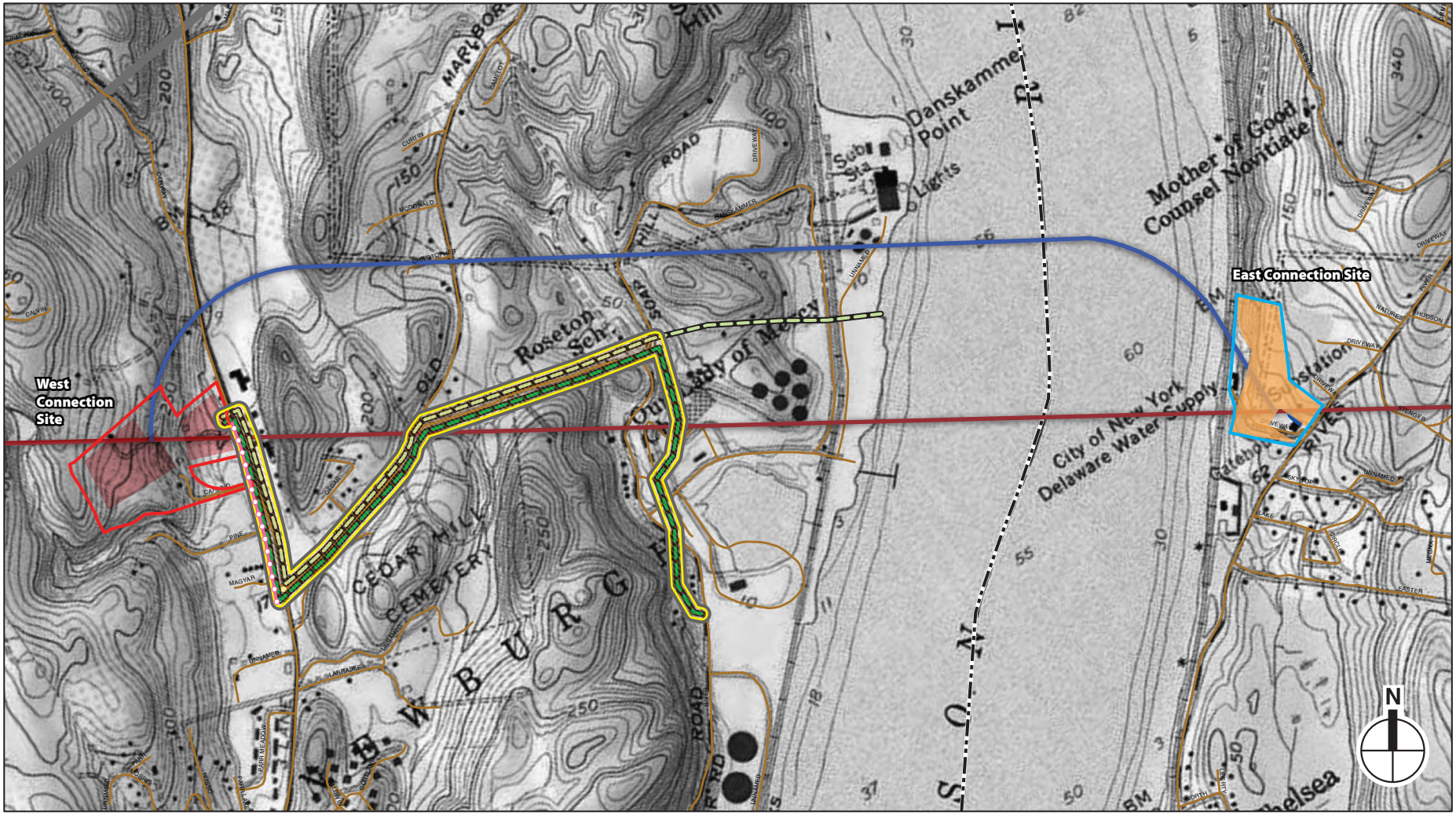
[11] *Phase 1 Archaeological Survey: Delaware Aqueduct Rondout-West Branch Tunnel Repair Program, West Connection Site: Geotechnical Borings RB-1, RB-2, and RB-3. Newburgh, Orange County, New York, OPRHP Review Number: 11PR00021*. Prepared for the New York City Department of Environmental Protection, May 10, 2011.

10.27.11




- *Existing Delaware Aqueduct Rondout-West Branch Tunnel*
- *Location of West Connection Site*
- *Location of Dewatering Pipeline Option 1*
- *Location of Dewatering Pipeline Option 2*
- *Water Main Extension*
- *Location of East Connection Site*
- *Proposed Bypass Tunnel Alignment*
- *Archaeologically sensitive areas within the West Connection Site*
- *Areas adjacent to the streetbeds along the proposed Dewatering Pipeline route that may be archaeologically sensitive if they are level (slopes less than 12 to 15 percent) and unpaved*
- *Archaeologically sensitive areas of the East Connection Site, below the depth of fill*

0 1000 FEET
SCALE

Figure 2.5-5
**Areas of Archaeological Sensitivity**

East of Danskammer Road, the two proposed dewatering pipeline routes differ. Option 1 would continue along the River Road as far east as Danskammer Road, where it would continue through a cleared corridor that runs through a wooded portion of the Dynegy property and empty into the Hudson River. A comparison of current and historic topographic information suggests that the landscape across this area was extensively altered during the 20th century. As a result of disturbance to this area associated with clearing and grading associated with utility installation (a water main runs along the northern side of the road), construction associated with the property's use as a power plant, the construction of the adjacent rail line, and excavation associated with clay harvesting in the 19th and early 20th centuries, the portion of Option 1 east of the cemetery has been determined to have low sensitivity for precontact archaeological resources.

To the east of the cemetery, the path of Option 2 has experienced some disturbance as a result of road construction and utility installation as well as late-19th century residential development. However, level grassy areas adjacent to the sides of River Road may not have been disturbed and are therefore determined to have low to moderate sensitivity for precontact archaeological resources.

### *Historic Period Archaeological Resources*

*West Connection Site*

The west connection site appears to have been occupied by undeveloped farmland until the late 19th century. By 1891, at least two families were residing on the property: that of Dennis McCarty along Route 9W (this home appears to be the one still standing within the eastern portion of the site), and that of Patrick Flannery, toward the center of the site. Both families owned and operated fruit farms on the west connection site and resided on the site for decades. Undeveloped portions of other farms were also included within the site. The west connection site continued to be used for fruit farming until the second half of the 20th century.

Additional homes may have been constructed on the Flannery farm during the late 19th and early 20th centuries. The 1903 Lathrop map depicts at least four structures in the approximate location of the west connection site; however, the map's inaccuracy prevents the exact locations of these structures from being determined. The only two map documented structures that can be confirmed to have been located within the boundaries of west connection site are the Flannery and McCarty homes seen on the 1891 Beers map. One of the homes identified on the 1903 map may be the existing structure on tax lot 8-1-15.3 of the west connection site, and another may be represented by the structural remnants of a small dwelling, an outbuilding, and a well that are visible within tax lot 8-1-19.1 of the west connection site.

The historic homes currently and formerly located on the site would have relied on domestic shaft features (i.e. privies, cisterns, and wells) for water gathering and sanitation. Wells are still in use on the property, although their dates of construction are unknown. Septic systems are associated with the standing structures on the property as well as with the foundation remnants. It is possible that additional shaft features are present in the vicinity of the structures and structural foundations located within the west connection site. Therefore, the west connection site has been

determined to have moderate to high sensitivity for historic period archaeological resources. While shaft features would be expected within a 100-foot radius of a structure, trash midden or surface deposits associated with the historic occupation of the property could be expected at greater distances. The areas of historic period archaeological sensitivity are depicted on Figure 2.5-5.

*Water Main Extension and Dewatering Pipeline*

The water main extension and the first segment of the dewatering pipeline (for both Options 1 and 2) would run along Route 9W between the west connection site and Old Post Road. This area was formerly farmland until the road was constructed in the late 19th century. No historic maps depict any structures in the path of the modern roadbed before its construction or in close proximity to it after the road was built. The next segment of the dewatering pipeline route (both options) would continue east along Old Post Road. The pipeline may be constructed along the northern perimeter of Cedar Hill Cemetery, which was founded in 1865. No burials appear to be located along the northern perimeter of the cemetery, and an existing gas main is located along the cemetery's northern side. A representative of the cemetery has provided a preliminary confirmation that burials are not expected to extend to the north of the cemetery within the Old Post Road streetbed. The representative stated that he had no knowledge of any burials having been located beneath Old Post Road, which pre-dates the cemetery. However, upon the finalization of the pipeline's route, the absence of burial plots within the proposed alignment, if the alignment goes into the cemetery property, would be fully confirmed before any borings are drilled or trenches are dug.

At the point where Old Post and River Roads diverge, the dewatering pipeline route (both options) would continue east down River Road as far as the eastern boundary of the cemetery. Few structures are depicted along this stretch of the pipeline route on historic maps, and the scattered buildings that are identified on maps are all located on the northern side of Old Post and River Roads. Four map-documented structures were identified along the path of the proposed force main route on the northern side of Old Post and River Roads between Route 9W and Danskammer Road. However, the homes currently situated on the northern side of the street are set back from the road and at a slightly higher elevation with the exception of a potential historic barn likely associated with the with the former Allerton or Ryan homes depicted on historic maps near the intersection of Old Post and River Roads. Although the project plans are not yet finalized and the extent of disturbance associated with the proposed pipeline is not yet known, archaeological resources associated with the historic occupation of the map-documented structures are not likely to be located in the front yards in close proximity to the street. However, the area surrounding the potential historic barn on Old Post Road, which fronts directly onto the street, could contain undisturbed archaeological resources. The pipeline route (both Options 1 and 2) on Old Post and River Roads between Route 9W and Danskammer Road is therefore determined to have low sensitivity for historic period archaeological resources except in the vicinity of the historic barn on Old Post Road, which is determined to have low to moderate sensitivity for archaeological resources.

East of Danskammer Road, the two options for the dewatering pipeline differ:

*Dewatering Pipeline Option 1.* East of the intersection of River Road and Danskammer Point, Option 1 would continue through the Dynegy property and cross the existing railroad tracks before emptying into the Hudson River. Option 1 would run through the former estate of the Armstrong family, which later became part of the Jova brickyards. The 1850 Sidney map depicts what appears to have been the large granite mansion known as "Danskammer" that was constructed by the Armstrongs in 1834. The 1864 Hughes map is more accurate than the Sidney map and indicates that the Danskammer mansion was situated along a former continuation of River Road—likely a driveway leading to the Armstrong estate—that continued to the east, whereas the road turns south in its modern configuration. The former Armstrong house therefore appears to have been located in close proximity to the existing Dynegy facilities. The Armstrong estate was later purchased by brick manufacturer Juan Jacinto Jova, who also resided in the Danskammer mansion.

By the end of the 19th century, the western shore of the Hudson River in this region of Newburgh was lined with brickyards that were able to take advantage of the pure clays that lined the waterfront. Significant quantities of clay were mined from the area, resulting in a transformation in the landscape. The Jova family ultimately tore down the Danskammer mansion to access additional clay deposits, and it is likely that the majority of this portion of the former Jova estate was excavated during the harvest of clay during the late 19th century. As seen on the 1891 Beers atlas, the land to the east of Cedar Hill Cemetery was owned by J.J. Jova while the land to the north of the cemetery between Old Post and Danskammer Roads was owned by the Rose Brick Company. The proposed route of Option 1 is located within the former Jova property.

The 1891 map depicts the former Danskammer mansion (specifically identified as a residence on the map) along the former extension of River Road as well as two unidentified structures—likely industrial buildings associated with the brickyard—to the east near the shore of the Hudson River. It appears that all of these structures were located south of the proposed dewatering pipeline route in this area of the Dynegy property. The 1903 Lathrop map identifies another structure, presumably another industrial structure associated with the brick works, within the Jova brickyard to the north of the Danskammer mansion. An early 20th century structure within the former Jova property to the south of the dewatering pipeline route was identified during a previous archaeological investigation completed by Dr. Eugene Boesch in 2002. This site is approximately 400 to 450 feet south of River Road.

A U.S. Geological Survey (USGS) map published in 1943 depicts several structures within the former Jova brickyards on the 1943 USGS map that were likely constructed as part of the CHG&E power plant that was constructed there in the preceding years. An aerial photograph of the property taken in 1957 depicts the site of Dewatering Pipeline Option 1 and shows additional disturbance as a result of the construction and expansion of CHG&E facilities. The area surrounding River Road is depicted in the photograph as having been cleared of trees, and the

photographs also show large disturbed areas north and south of the road. This disturbance may have also been the result of clay harvesting and other brick making activities. A small semi-circular path, similar to the driveway that formerly surrounded the Danskammer mansion as seen on historic maps, is visible in the aerial photograph. Several structures are visible in the vicinity of the path of Option 1 east of the former mansion's location. However, it is unclear if they were related to the nearby power plant or if they were originally constructed as part of the brickyards.

As a result of disturbance to the proposed route of Option 1 from clearing and grading associated with utility installation, construction associated with the property's use as a power plant, the construction of the adjacent rail line, and excavation associated with clay harvesting in the 19th and early 20th centuries, the route of Option 1 of the dewatering pipeline has been determined to have low sensitivity for precontact archaeological resources.

*Dewatering Pipeline Option 2.* Dewatering Pipeline Option 2 would continue south down River Road east of its divergence from Danskammer Road and empty into the Hudson River near the southern edge of the Dynegy property. No roads or structures are depicted in this location on the 1850 Sidney, 1864 Hughes, or 1875 Beers maps, although the stream along which the road runs is depicted on the two later maps. The 1891 Beers atlas reflects the establishment of the newly constructed Our Lady of Mercy Chapel along the western side of River Road; however, no other structures are depicted along the proposed dewatering pipeline route, although the community of Roseton had been established in the area by that time. Subsequent maps and aerial photographs depict the Roseton homes along the western side of River Road as well as several structures east of the streetbed.

The 1943 USGS map reflects the redevelopment of the general area for use as a power plant by CHG&E, which included the demolition of most of the Roseton homes. Several structures were established in the area as part of the new power plant, and a small channel had been cut near the location where the stream drained into the Hudson River; this channel is still present today and is the site of the terminus of dewatering pipeline Option 2.

While the pipeline could run in the vicinity of the former Roseton homes on the west side of River Road, it is unlikely that archaeological resources associated with the historic occupation of those homes would be present in the former front yards in close proximity to the street, where disturbance has been documented.

Because of the lack of map-documented structures in some portions of the proposed dewatering pipeline route and the documented disturbance of other areas along the pipeline route as a result of road construction, utility installation, clay harvesting, and the construction of the existing power facilities, both Options 1 and 2 of the dewatering pipeline route have been determined to have low sensitivity for historic period archaeological resources.

### 2.5-3.2 FUTURE WITHOUT PROJECT 1, SHAFT AND BYPASS TUNNEL CONSTRUCTION—WEST OF HUDSON

#### *HISTORIC RESOURCES*

As discussed in Section 2.2, "Land Use, Zoning, and Public Policy," the Town of Newburgh has identified the Orchard Hill residential development and a small convenience store/gas station on Route 9W as pending projects within the study area. Both of these projects are outside the historic resources study area.

#### *ARCHAEOLOGICAL RESOURCES*

In the future without Project 1, it is assumed that no construction would occur at the west connection site and along the dewatering pipeline route. Therefore, any potential precontact or historic period archaeological resources identified in the APE would remain undisturbed.

### 2.5-3.3 PROBABLE IMPACTS OF PROJECT 1, SHAFT AND BYPASS TUNNEL CONSTRUCTION—WEST OF HUDSON

#### *HISTORIC RESOURCES*

##### *West Connection Site*

There is one potential historic resource within the APE for the west connection site, a residence and barn located at 5495 Route 9W. Construction of the shaft and other associated elements at the west connection site would have no adverse impacts on this potential historic resource. As described above, the house on the property is located approximately 300 feet from the west connection site, with the barn at a greater distance. As such, this potential historic resource is located at too great a distance to be potentially affected by on-site construction-related activities.

It is likely that some portions of the south end of the west construction site and associated construction activity would be visible from 5495 Route 9W, including in the location of the access road to the west connection site from Route 9W, as intervening paved and grassy areas along Route 9W would continue to provide views between 5495 Route 9W and this portion of the west connection site. However, most of the construction elements and activity are not expected to be visible from 5495 Route 9W. The site would be extensively graded, and there is dense tree cover on both sides of the stream that extends southwest between the house and west connection site, limiting visibility. Furthermore, the house is oriented toward Route 9W and is buffered by other properties to the north and west. Therefore, the construction of the shaft and associated related construction at the west connection site would not adversely affect the setting or obstruct or otherwise diminish views of this potential historic resource.

##### *Water Main Extension and Dewatering Pipeline*

As described above, four historic resources have been identified in the APEs for the water main extension and dewatering pipeline. These are the residence and barn at 5495 Route 9W, the residence and barn at 51 Old Post Road, residence on River Road west of the CHG&E property, and Our Lady of Mercy Church at 977 River Road. Construction of the water main extension and

dewatering pipeline would involve construction activities that would generate ground-borne construction vibration. **Table 2.5-1** presents vibration-induced risk criteria for construction activities associated with roadwork construction.

**Table 2.5-1**
**Vibration-Induced Risk Criteria for Buildings**

| Activity | Perceptible Distance (feet) | Damage Potential Distance (feet) | | |
|---|---|---|---|---|
| | | Architectural | | Structural |
| | | Historic | Residential | |
| Pavement breaking | 150 | 60 | 40 | 8 |
| Excavating | 60 | 30 | 20 | 3 |
| Heavy truck traffic | 50 | 20 | 15 | 3 |
| Jackhammers | 30 | 15 | 10 | 2 |

**Sources:**
Wiss, John F. Construction Vibrations: State-of-the-Art. Journal of the Geotechnical Engineering Division, Proceedings of the American Society of Civil Engineering Division, Proceedings of the American Society of Civil Engineers, Volume 107, No. GT2, February 1981.
Standard Recommended Practice for Evaluation of Transportation Related Earthborne Vibrations. AASHTO Designation: R8-81 (1986).

Three of the potential historic resources in the APEs for the dewatering pipeline construction (the house at 5495 Route 9W [which is along the water main extension], the house and barn at 51 Old Post Road, and the house on River Road west of the CHG&E property) are located within 60 feet of potential pavement breaking, excavating, and heavy truck traffic that would occur with the construction of the pipeline in both Options 1 and 2—the distance where the potential for architectural damage to historic structures may result.[12] Vibration associated with the construction would be temporary and short term in duration (construction is expected to proceed at approximately 100 feet per day). The barn at 51 Old Post Road is located immediately adjacent Old Post Road, and could fall within the potential distance for structural damage.[13] Our Lady of Mercy Church, located approximately 75 feet from River Road in Option 2, is beyond the distance at which any potential damage could occur.

Therefore, in either Options 1 or 2, a Construction Protection Plan (CPP) would be prepared in consultation with SHPO to avoid any inadvertent construction-related impacts on the potential historic resources at 5495 Route 9W, 51 Old Post Road, and at the property west of the CHG&E property on River Road. The CPP would include provisions for preconstruction inspections,

[12] The determination as to whether properties are located within 60 feet is derived from measuring from the edge of the roadway closest to the historic resource. If the measurement is taken from the opposite side of the roadway, then some properties could no longer be within this affected zone. This would include the residence at 5495 Route 9W and the residence at 51 Old Post Road. The residence just west of the CHG&E property would still be located within the potential zone for structural damage (60 feet) as it is only 20 feet from the edge of River Road closest to the property.

[13] If the measurement of distance is taken from the south edge of River Road, the barn would not be located in the zone for potential structural damage (8 feet) but would still be located in the zone for potential architectural damage (60 feet).

crack and vibration monitoring as warranted, and the provision for stopping work to prevent damage to the historic structures. With these protection measures in place, no potential significant adverse impacts on historic structures are expected.

### *ARCHAEOLOGICAL RESOURCES*

As discussed above in section 2.5-3-1, "Existing Conditions—West of Hudson," initial background research suggested that the portions of the west connection site with slopes of less than 12 to 15 percent are considered to have moderate sensitivity for precontact archaeological resources and moderate to high sensitivity for historic period archaeological resources. Unpaved, level areas adjacent to the pipeline route (Options 1 and 2) between the west connection site and Danskammer Road and the route of dewatering pipeline Option 2 south of the divergence of River and Danskammer Roads have been determined to have low to moderate sensitivity for precontact archaeological resources. Steeply sloped areas and paved areas (including streetbeds) have been determined to have low sensitivity for precontact archaeological resources.

Therefore, further investigation in the form of Phase 1B archaeological testing will be completed in the areas that have been identified as sensitive for archaeological resources. A sensitivity map has been prepared to indicate those areas for which further investigation is recommended (see Figure 2.5-5). The Phase 1B survey would be completed before the start of Project 1 construction and would be submitted to SHPO for review and comment.

Should any intact archaeological resources be identified during the course of the survey, they would be properly documented and evaluated in consultation with SHPO. The Phase 1B survey would also determine the need for additional archaeological analysis (i.e., a Phase 2 survey) to assess the extent and potential significance (S/NR-eligibility) of any encountered archaeological resources. A Phase 2 survey would therefore determine if mitigation, such as Phase 3 data recovery, is warranted. With this testing and continued consultation with SHPO regarding the need for, and implementation of, any Phase 2 or 3 investigations, Project 1 would have no significant adverse impacts to archaeological resources on the west connection site or the route of the dewatering pipeline.

## 2.5-4 EAST OF HUDSON

### 2.5-4.1 EXISTING CONDITIONS—EAST OF HUDSON

### *HISTORIC RESOURCES*

#### *East Connection Site*

There are no known historic resources on the east connection site (Shaft 6 site). The site contains the existing Shaft 6 superstructure, pump station, and substation.

The Shaft 6 superstructure was built as part of the Delaware water system, constructed between 1936 and 1964. The Delaware Aqueduct, extending for approximately 85 miles, was completed in 1944. The Shaft 6 superstructure was built in 1939 and contains a shaft to the aqueduct. It was

designed as a tunnel blow-off and dewatering shaft. It is a classically designed building clad in red brick and with a tiled hipped roof. The pump station is a utilitarian structure clad in metal with a flat roof.

### *Area of Potential Effect*

There are no known historic resources in the APE.[14] One potential historic resource has been identified within the study area: the residence at 225 River Road, approximately 300 feet north of the east connection site. It is a federal style frame house—the main (east) section appears to date to the early part of the 19th century (see **Figure 2.5-6** Resource No. 1 and **Figure 2.5-7**). The house is oriented at a diagonal to River Road, with the primary façade facing southeast. The house is one and a half stories with a covered front porch. The main entrance is accessed from the porch and contains sidelights and a transom with tracery. The eaves are ornamented with brackets (most likely a later addition), and the windows have decorative wood moldings including hoods. The house appears to have been enlarged with additions to the west. An 1850 map depicts the ownership of the property by D. Brinckerhoff.[15] The Brinckerhoffs are one of Dutchess County's earliest families and founded Brinckerhoffville along Fishkill Creek. Although the property records on file with Dutchess County lists the construction date as 1800,[16] historical records indicate that Derick Brinckerhoff (1786-1877), a former wholesale grocer, purchased 200 acres along the Hudson River in 1820, built a house, and resided there for almost 50 years.[17] Derick Brinckerhoff was the great grandson of Abraham Brinckerhoff, who was the first Brinckerhoff to come to Dutchess County. The property possesses historic and architectural significance and appears eligible for S/NR listing under Criterion C, and if associated with the Brinckerhoff family, it may possess additional significance under Criteria B and C.

## *ARCHAEOLOGICAL RESOURCES*

### *Precontact Archaeological Resources*

The east connection site is situated along the shore of the Hudson River in close proximity to streams and within 1 mile of several previously identified precontact archaeological sites. The original topography and environmental setting of the east connection site would have made it an attractive location for precontact occupation. While there are areas where slopes are steep and where bedrock is shallow, the landscape of the site was modified significantly in the early to

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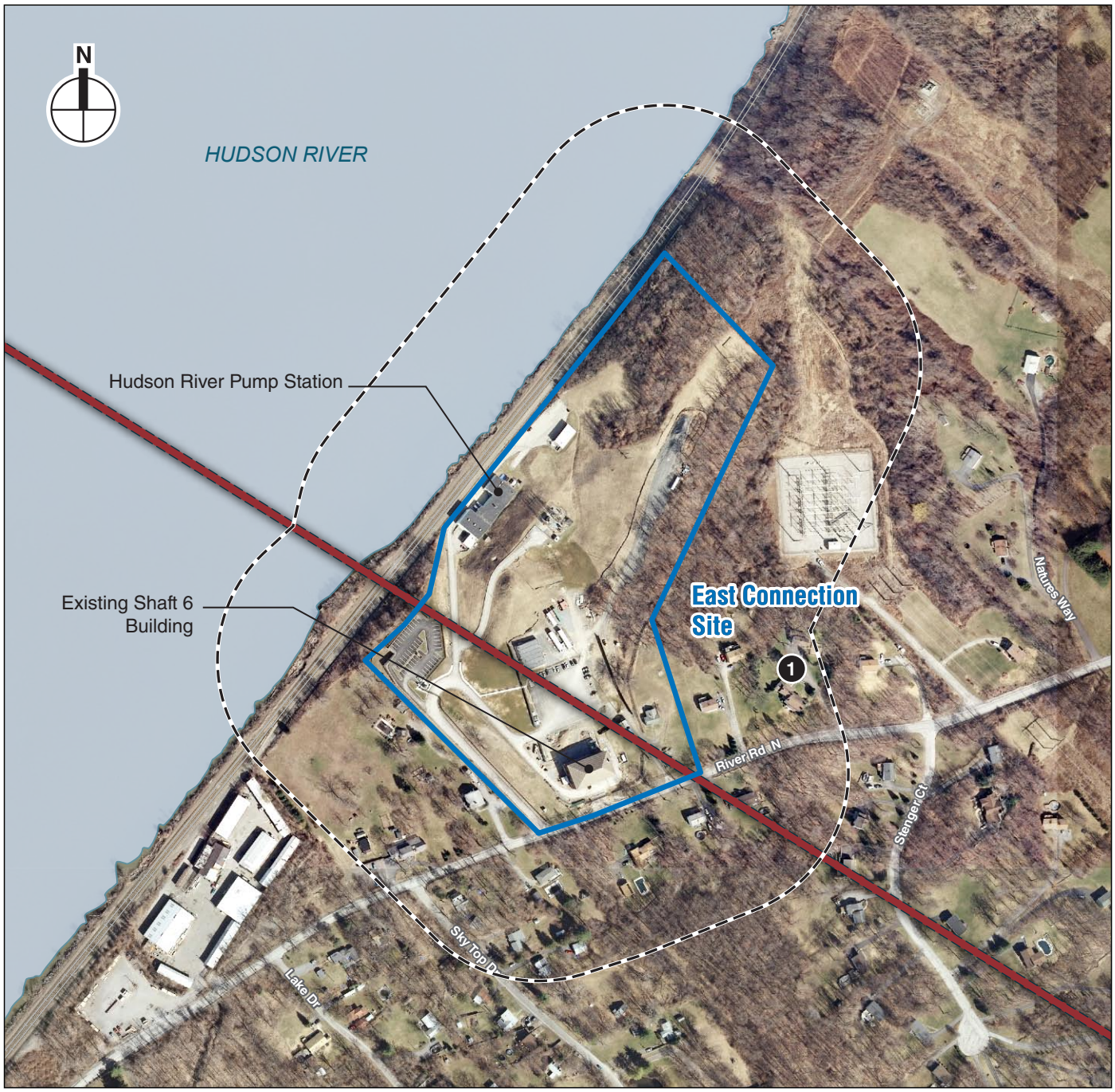
[14] The Wheeler Hill Historic District, which is listed on the S/NR and is also a protected feature in the Town of Wappinger (Town of Wappinger Comprehensive Plan, adopted September 27, 2010) is at a considerable distance from the east connection site. The historic district's southern boundary is approximately at Cobblestone Road north of the east connection site.

[15] Sidney, 1850.

[16] http://geoaccess.co.dutchess.ny.us

[17] Munsell, Frank & Hughes, Thomas Patrick, *American Ancestry: Embracing Lineages from the Whole of the United States, 1888-1898,* 2010.

10.27.11




0 200 500 FEET
SCALE

*Delaware Aqueduct Rondout-West Branch Tunnel*

*East Connection Site*

*East Connection Site Study Area Boundary (400-Foot Perimeter)*

**Potential Historic Resources:**

1 *Residence at 225 River Road North*

Figure 2.5-6

## East Connection Site: Potential Historic Resources

House at 225 River Road North, primary (south) facade **7**

House at 225 River Road North, east facade **8**

Figure 2.5-7

**East Connection Site:**
**Potential Historic Resources - 225 River Road North**

mid-20th century, when the existing Shaft 6 was constructed and the excavated sediments were deposited around the site, resulting in a fill layer that ranges between 1 and 38 feet. Subsequent disturbance associated with the construction of the existing DEP facilities on the site in the 20th century appears to have resulted in some disturbance to the original ground surface in areas where fill was not deposited or where the elevation was lowered as part of the construction of Shaft 6. Below the depth of fill in areas that have not been disturbed by 20th-century development, the original ground surface may be intact. Therefore, the east connection site has been determined to have moderate sensitivity for archaeological resources below the depth of fill and in areas where no modern development is located.

***Historic Period Archaeological Resources***

The east connection site was first developed for residential use circa 1820 when it was developed by Derick Brinckerhoff. In the late 1870s, the estate was sold to David H. Brown, a farmer who resided on the property with his family and a handful of farmhands until the early 20th century. The east connection site is situated on the western portion of the historic estate, and no map-documented structures have been identified on the site, which was likely used for agricultural purposes during the historic period.

The Brinkerhoff/Brown home is depicted on historic maps at a distance of more than 500 feet or more from the east connection site. The existing structure situated approximately 300 feet to the east of the east connection site (225 River Road North) may represent the Brown/Brinckerhoff home or an associated structure. Property information made available by Dutchess County for this property suggests that the structure and several of its associated outbuildings were constructed circa 1800. If this structure is in fact the Brinckerhoff/Brown home, then the historic maps may incorrectly depict its location.

In the early 20th century, the east connection site was redeveloped in association with the construction of the Rondout-West Branch Tunnel. At that time, Shaft 6 was excavated, and the excavated materials were deposited around the site, resulting in a fill layer that ranges between 1 and 38 feet in thickness across much of the east connection site.

Because of the distance between map-documented structures and historic structures that were observed in the vicinity of the east connection site as well as the disturbance to the site that resulted from the construction of Shaft 6 and the DEP facilities on the property, the east connection site has been determined to have low sensitivity for archaeological resources dating to the historic period.

### 2.5-4.2 FUTURE WITHOUT PROJECT 1, SHAFT AND BYPASS TUNNEL CONSTRUCTION—EAST OF HUDSON

***HISTORIC RESOURCES***

No planned development projects have been identified within the study area. The Town of Wappinger has recently published a map of proposed zoning changes that affect two parcels

located immediately south of the east connection site. These zoning changes would not affect the potential historic resource located north of the east connection site at 225 River Road North.

### *ARCHAEOLOGICAL RESOURCES*

In the future without Project 1, it is assumed that no construction would occur at the east connection site. Therefore, any potential archaeological resources identified would remain undisturbed.

## 2.5-4.3 PROBABLE IMPACTS OF PROJECT 1, SHAFT AND BYPASS TUNNEL CONSTRUCTION—EAST OF HUDSON

### *HISTORIC RESOURCES*

Project 1 would have no adverse effects on historic resources on the east connection site. There are no known historic resources on the site, and existing Shaft 6 superstructure, a circa 1939 classically designed building, would be retained as part of Project 1.

There is one potential resource in the APE, the residence at 225 River Road. As this potential historic resource is located approximately 300 feet from the east connection site, it is at too great a distance to be potentially affected by on-site construction-related activities.

While there are two intervening properties between this potential resource and the east connection site to the south, there is a clear line of sight between the historic house and the portion of the east connection site along River Road North, most specifically the Shaft 6 superstructure, which is set back from River Road North at roughly the same distance as the potential historic resource. The buildings on the intervening properties are ranch-style houses set back at a greater distance from River Road; the southern property, which is surrounded by a large lawn, is separated from the east connection site by a chain-link fence, providing views to the east connection site from the north. The land slopes down to the west (to the river) and south on River Road North from the potential historic resource, providing views to the east connection site and the Hudson River and opposite shoreline beyond.

To the west, there is a dense tree buffer between the potential resource and the east connection site. It is in this area that there would be a substantial amount of grading and clearing, construction of the tunnel shaft, and the stockpiling of soils from the tunnel construction. Much of the site in the vicinity of the Shaft 6 superstructure, pump station, and substation has otherwise already been graded and the topography altered throughout DEP’s use of the site.

Due to the sloping topography and line of sight between the potential historic resource and the east connection site to the south, it is expected that certain construction activities on the east connection site would be visible from 225 River Road North. However, Project 1 would not result in the construction of any permanent above-ground structures that would obscure views to the potential historic resource in views north on River Road. Project 1 would also not adversely affect the context of the potential historic resource, which has existed in a changing context of adjacent and nearby modern residential development, the construction of DEP’s facilities on the

east connection site, and the substantial land alteration hat has previously occurred on DEP's property as a result. Therefore, Project 1 would have no significant adverse impacts on historic resources on the east connection site.

### *ARCHAEOLOGICAL RESOURCES*

As discussed above, the Phase 1A study determined that the east connection site has moderate sensitivity for precontact archaeological resources in undisturbed areas below the depth of landfill. Therefore, further investigation in the form of Phase 1B archaeological testing will be completed in the areas that have been identified as sensitive for archaeological resources. A sensitivity map has been prepared to indicate those areas for which further investigation is recommended (see Figure 2.5-5). Phase 1B testing is recommended for only those areas where the depth of proposed project impacts would be greater than the depth of fill. The Phase 1B report would be submitted to SHPO for review and comment.

Should any intact archaeological resources be identified during the course of the survey, they would be properly documented and evaluated in consultation with SHPO. The Phase 1B survey would also determine the need for additional archaeological analysis (i.e. a Phase 2 survey) to assess the extent and potential significance (S/NR-eligibility) of any encountered archaeological resources. A Phase 2 survey would therefore determine if mitigation, such as Phase 3 data recovery, is warranted. With this testing and continued consultation with SHPO regarding the need for, and implementation of, any Phase 2 or 3 investigations, Project 1 would have no significant adverse impacts to archaeological resources on the east connection site.

## 2.5-5 CONCLUSIONS

### 2.5-5.1 WEST OF HUDSON

### *HISTORIC RESOURCES*

Project 1 would have no significant adverse impacts on historic resources in the area west of the Hudson River. The west connection site and water main extension and dewatering pipeline route do not contain historic resources. Construction at the west connection site would not result in significant adverse physical (construction-related) or contextual (visual) impacts on the potential historic resource in the APE, the house and barn at 5495 Route 9W. To avoid adverse impacts on potential historic resources identified in the APE for the routes of the water main extension and the dewatering pipeline, a Construction Protection Plan (CPP) would be prepared in consultation with SHPO that would include the measures to be taken to avoid any inadvertent construction-related impacts on three potential historic resources located in the APE of the two options for the dewatering pipeline route: the house at 5495 Route 9W, the house and barn at 51 Old Post Road, and the house on River Road west of the CHG&E property.

### *ARCHAEOLOGICAL RESOURCES*

Portions of the west connection site have been determined to have low to moderate sensitivity for precontact archaeological resources and moderate to high sensitivity for archaeological resources dating to the historic period. Undisturbed and level areas adjacent to the streetbeds through which both options of the dewatering pipeline route were determined to have low or low to moderate sensitivity for precontact archaeological resources and low or low to moderate sensitivity for archaeological resources dating to the historic period. Areas within the APE with steep slopes (12 to 15 percent or more) or where disturbance has been documented are not considered to be sensitive for archaeological resources dating to either the precontact or historic periods. Phase 1B testing will be undertaken in for those areas that have been identified as archaeologically sensitive. With this testing and continued consultation with SHPO regarding the need for, and implementation of, any Phase 2 or 3 investigations, Project 1 would have no potential significant adverse impacts to archaeological resources.

The Phase 1A Archaeological Study of the west connection site and dewatering pipeline route is being submitted to SHPO for review and comment as part of the publication of this EIS.

## 2.5-5.2 EAST OF HUDSON

### *HISTORIC RESOURCES*

Project 1 would have no significant adverse impacts on historic resources in the area east of the Hudson River. There are no historic resources on the east connection site. One potential resource identified in the APE for the east connection site, the house at 225 River Road North, is at too great a distance to be physically affected by construction-related activities on the east connection site. There would also be no adverse contextual impacts on the potential historic resource as a result of Project 1 construction activities.

### *ARCHAEOLOGICAL RESOURCES*

Those areas of the east connection site that were not disturbed by the construction of existing DEP facilities and those that are covered by the dense layer of fill deposited on the site during the excavation of Shaft 6 have been determined to have moderate sensitivity for precontact archaeological resources and low sensitivity for archaeological resources dating to the historic period. Phase 1B testing is recommended for those areas that have been identified as archaeologically sensitive. With this testing and continued consultation with SHPO regarding the need for, and implementation of, any Phase 2 or 3 investigations, Project 1 would have no potential significant adverse impacts to archaeological resources.

The Phase 1A Archaeological Study of the east connection site is being submitted to SHPO for review and comment as part of the publication of this EIS. ✷