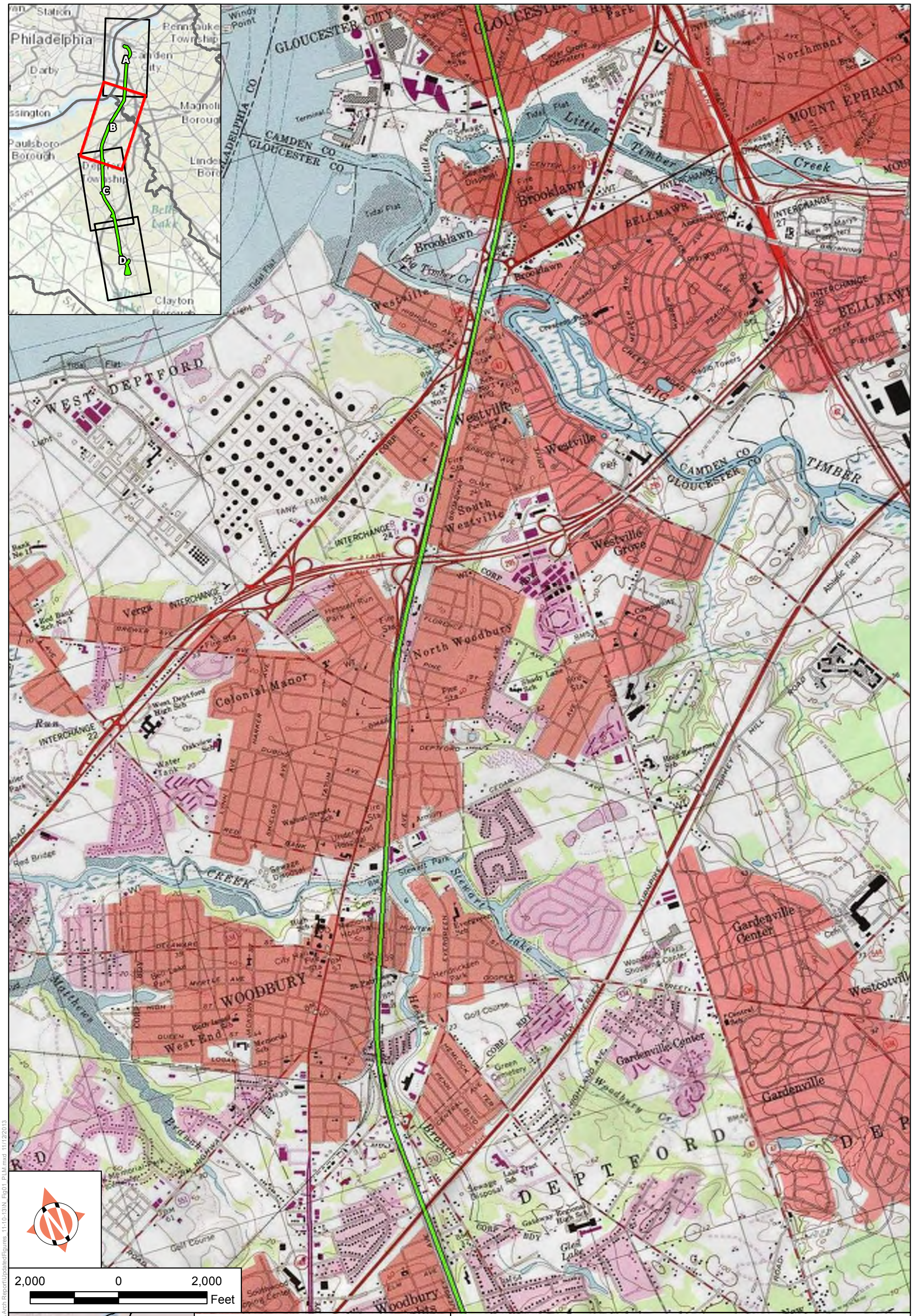

Figure 1B
Project Location Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

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Source: © 2013 National Geographic Society, i-cubed; Camden, Pitman East, Pitman West, Runnemade, and Woodbury, New Jersey and Philadelphia, Pennsylvania Quadrangles

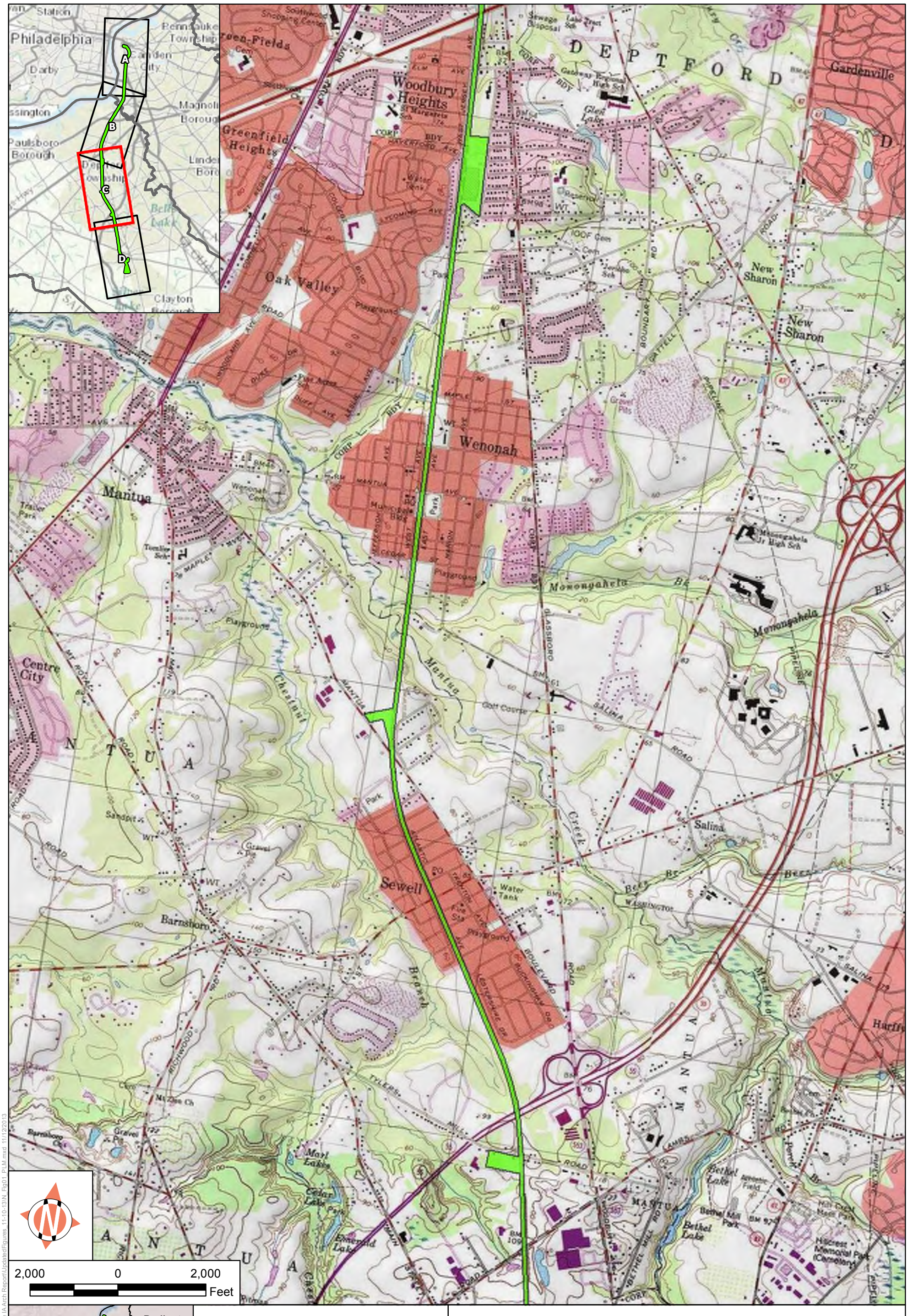

Figure 1C
Project Location Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

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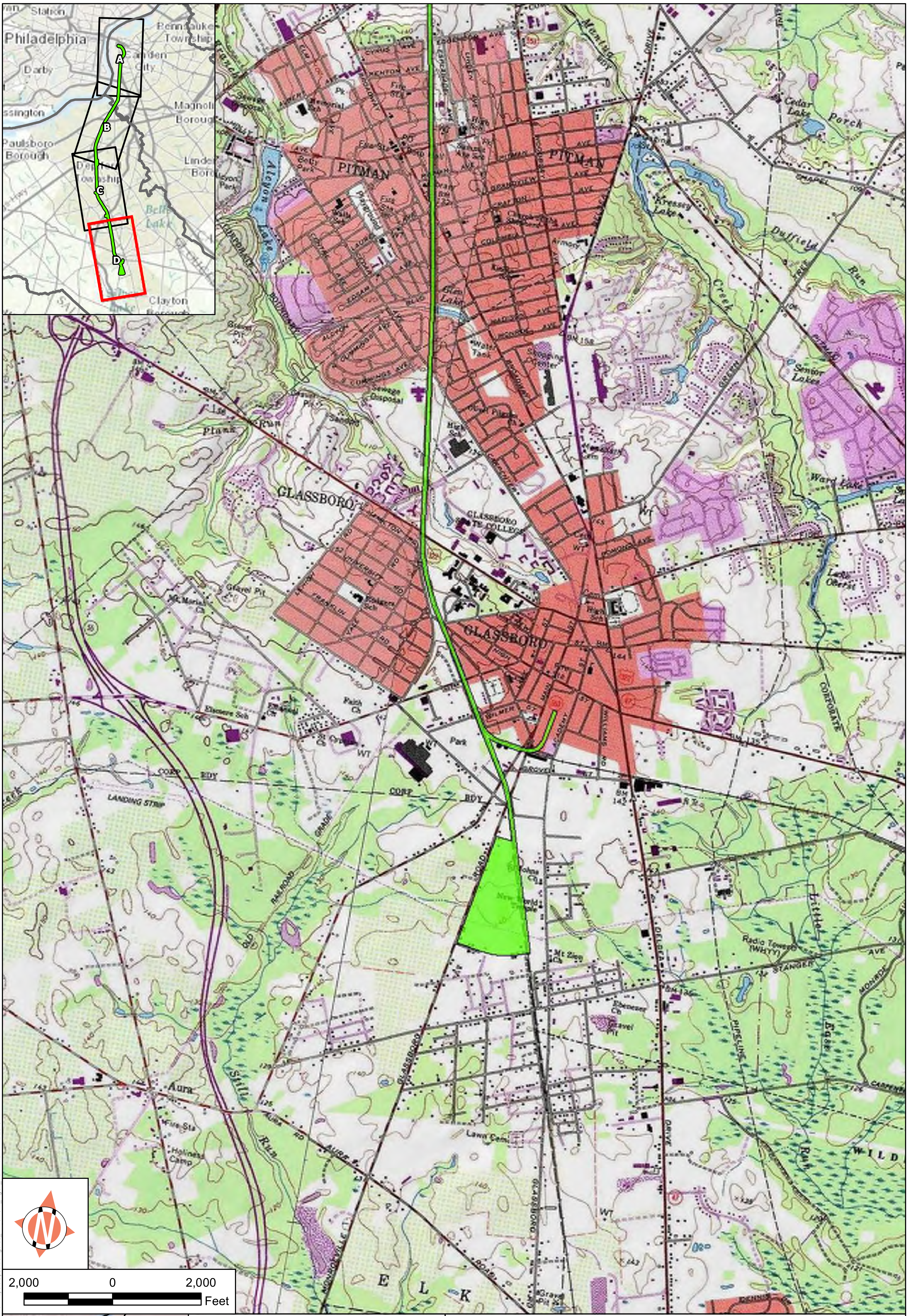
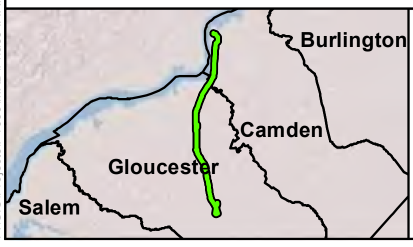
Source: © 2013 National Geographic Society, i-cubed; Camden, Pitman East, Pitman West, Runnemade, and Woodbury, New Jersey and Philadelphia, Pennsylvania Quadrangles





Area of Potential Effects (APE)

Figure 1D
Project Location Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: © 2013 National Geographic Society, i-cubed; Camden, Pitman East, Pitman West, Runnemade, and Woodbury, New Jersey and Philadelphia, Pennsylvania Quadrangles

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Area of Potential Effects (APE) - Approximate

Figure 2
1639 Suydt Rivier
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Camden and Gloucester Counties, New Jersey

Source: http://mapmaker.rutgers.edu/SvydtRivier1639.html

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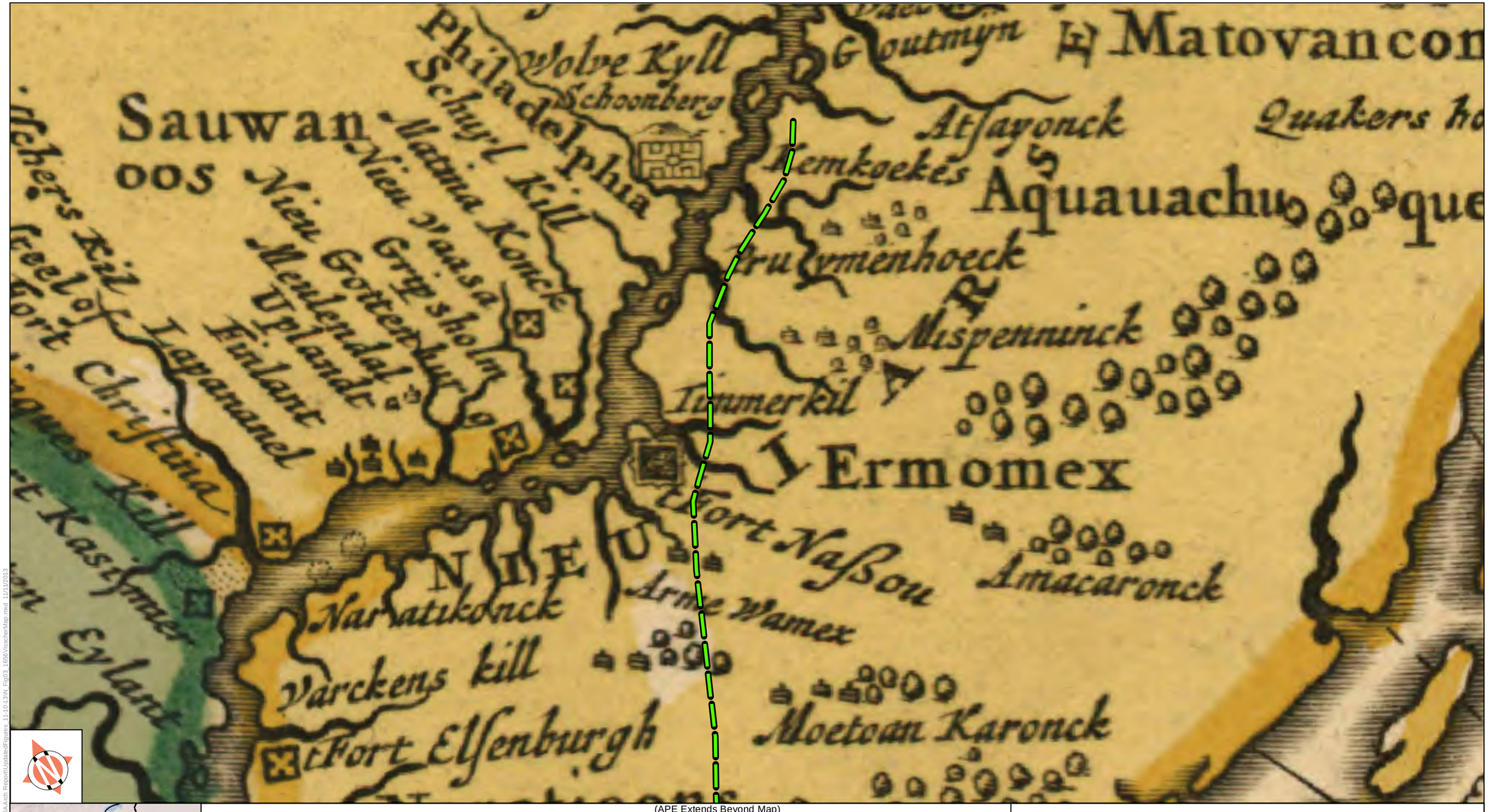
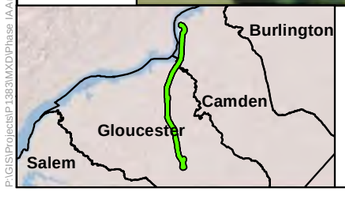


(APE Extends Beyond Map)



Area of Potential Effects (APE) - Approximate

Figure 3
1656 Visscher Map
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Camden and Gloucester Counties, New Jersey

Source: Novi Belgii Novaeque Angliae (Library of Congress)

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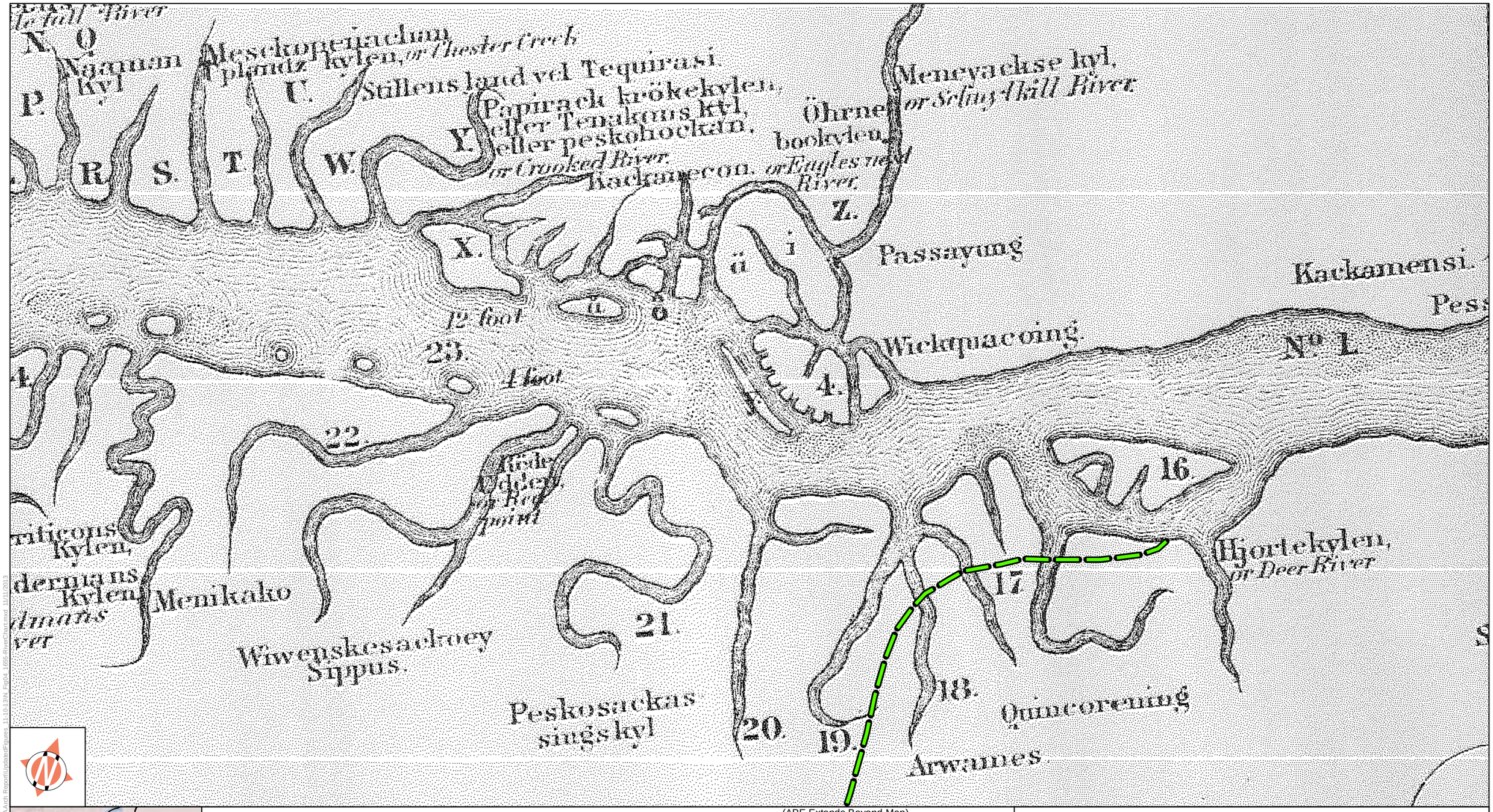

Figure 4
1654-55 Lindström Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Novi Suecia via upload.wikimedia.org/wikipedia/commons/1/1f/Delaware_river_chart_1655.jpeg

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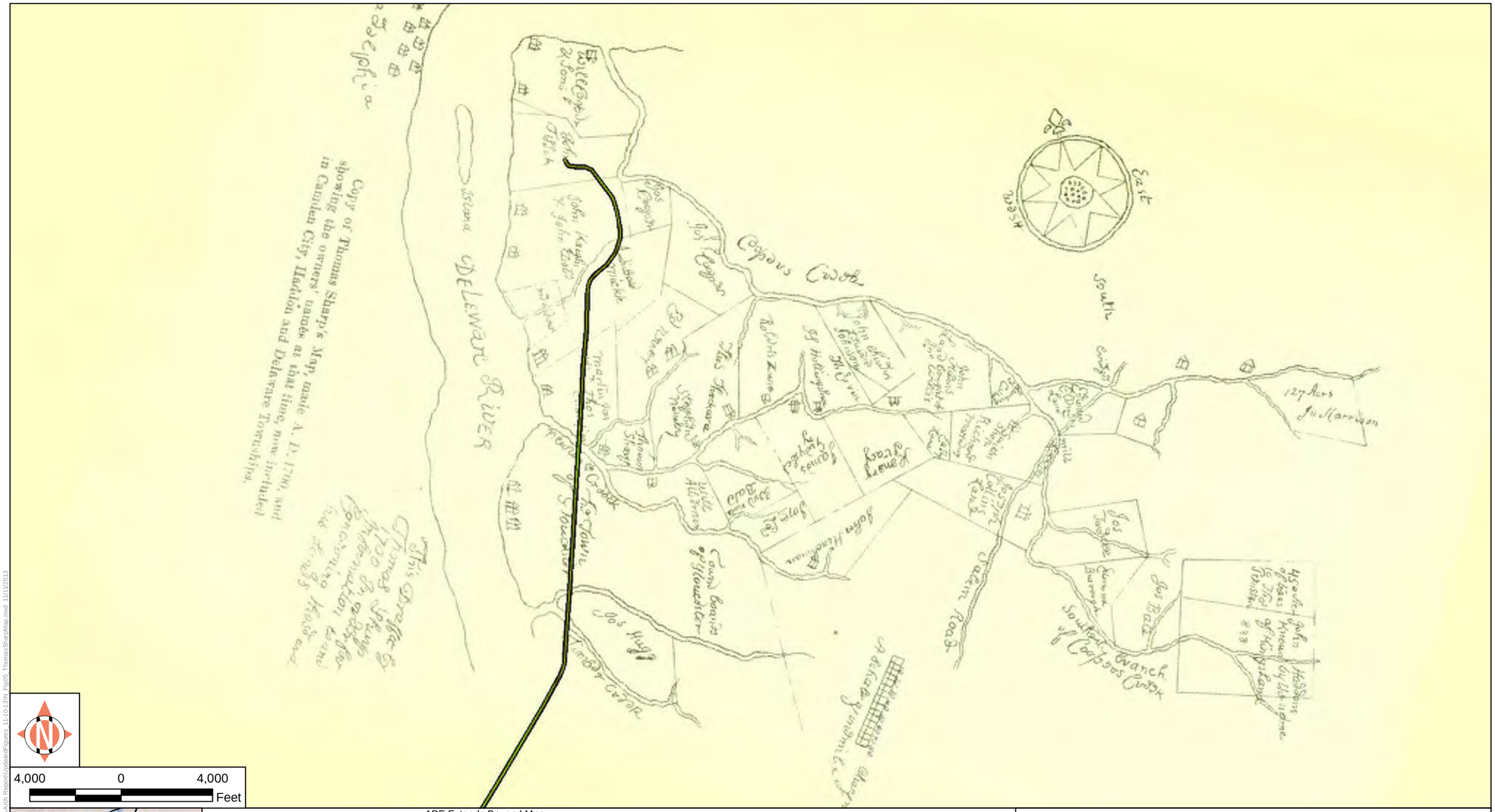

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Figure 5
1700 Sharp Map of Camden Area
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Source: Library of Congress and Prowell 1886

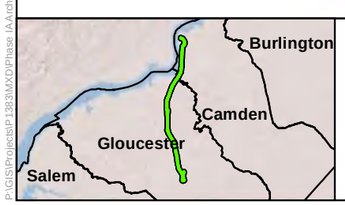

Figure 6
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Source: Library of Congress

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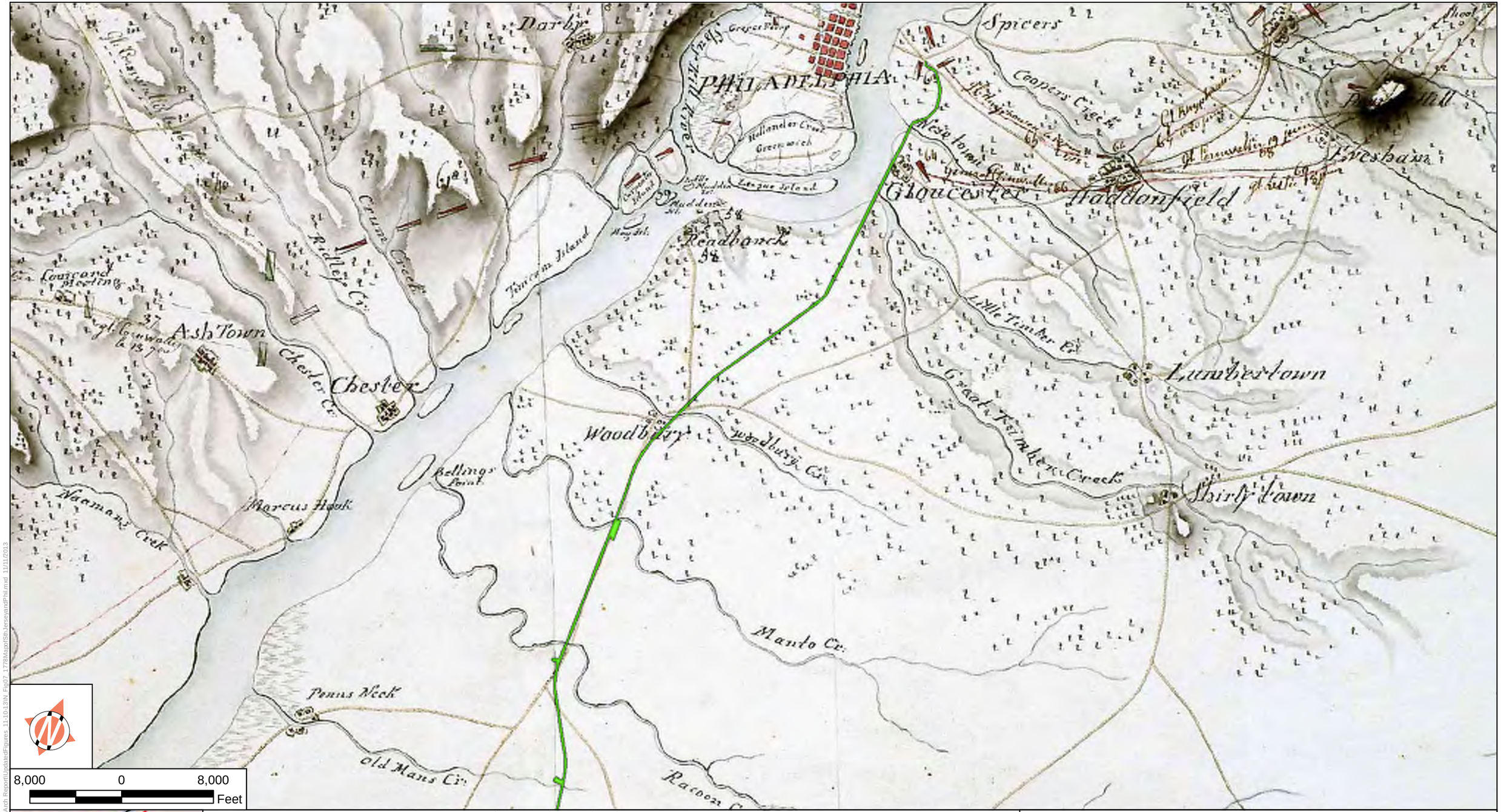

(APE Extends Beyond Map)

Area of Potential Effects (APE)

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Source: Hessisches Staatsarchiv Marburg

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Camden and Gloucester Counties, New Jersey

Source: Library of Congress

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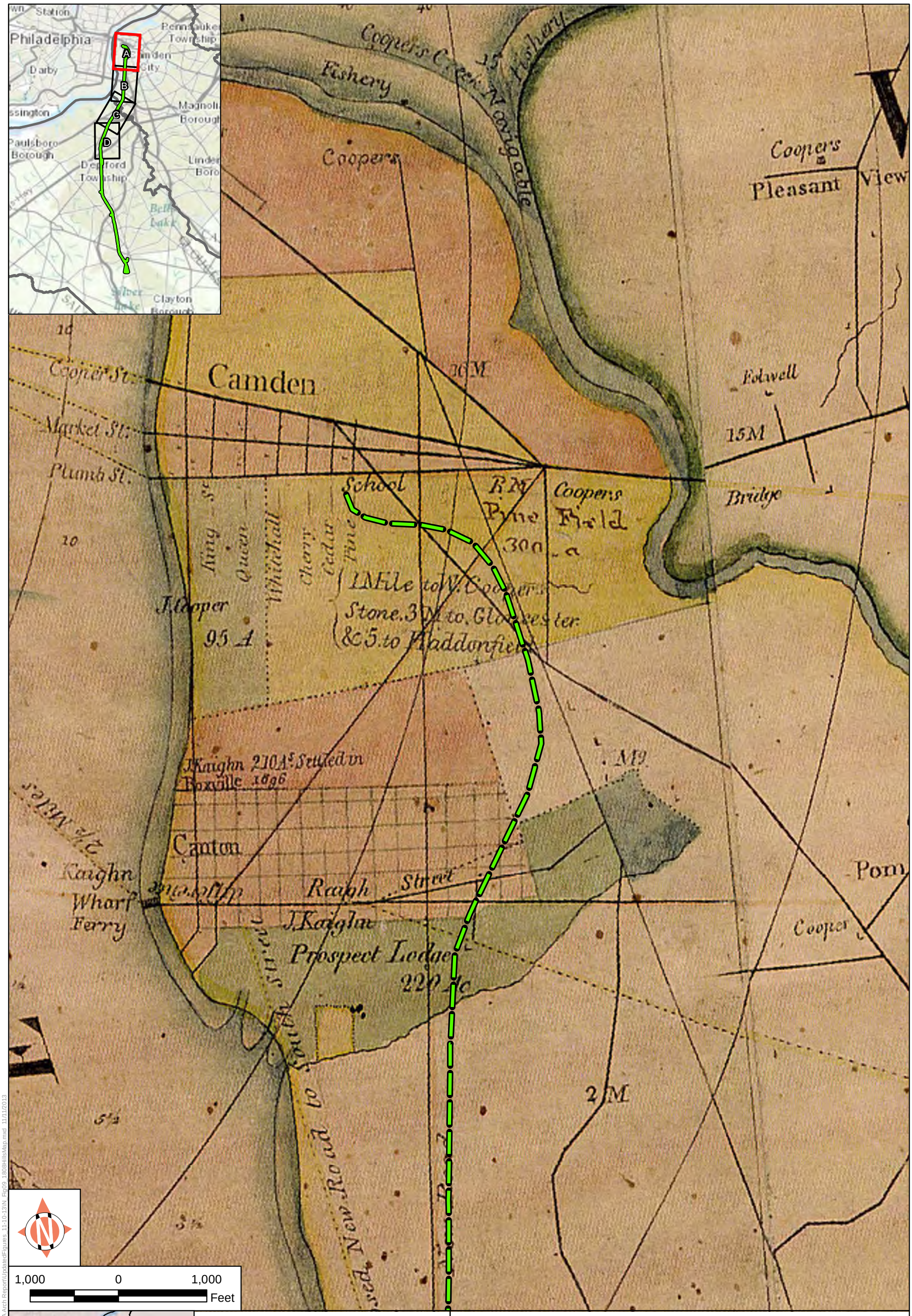

Figure 9A
1808 Hills Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Camden County Historical Society

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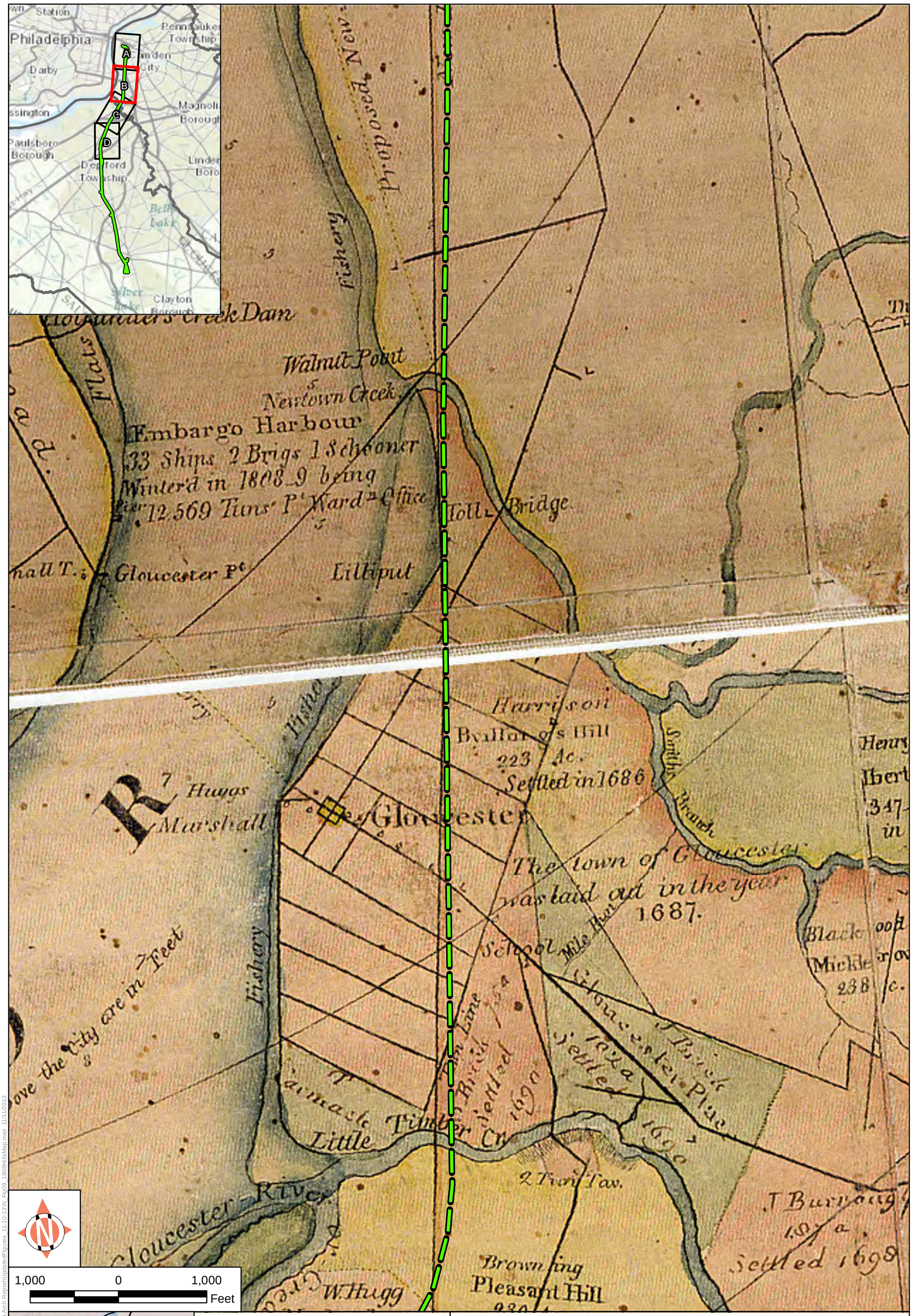

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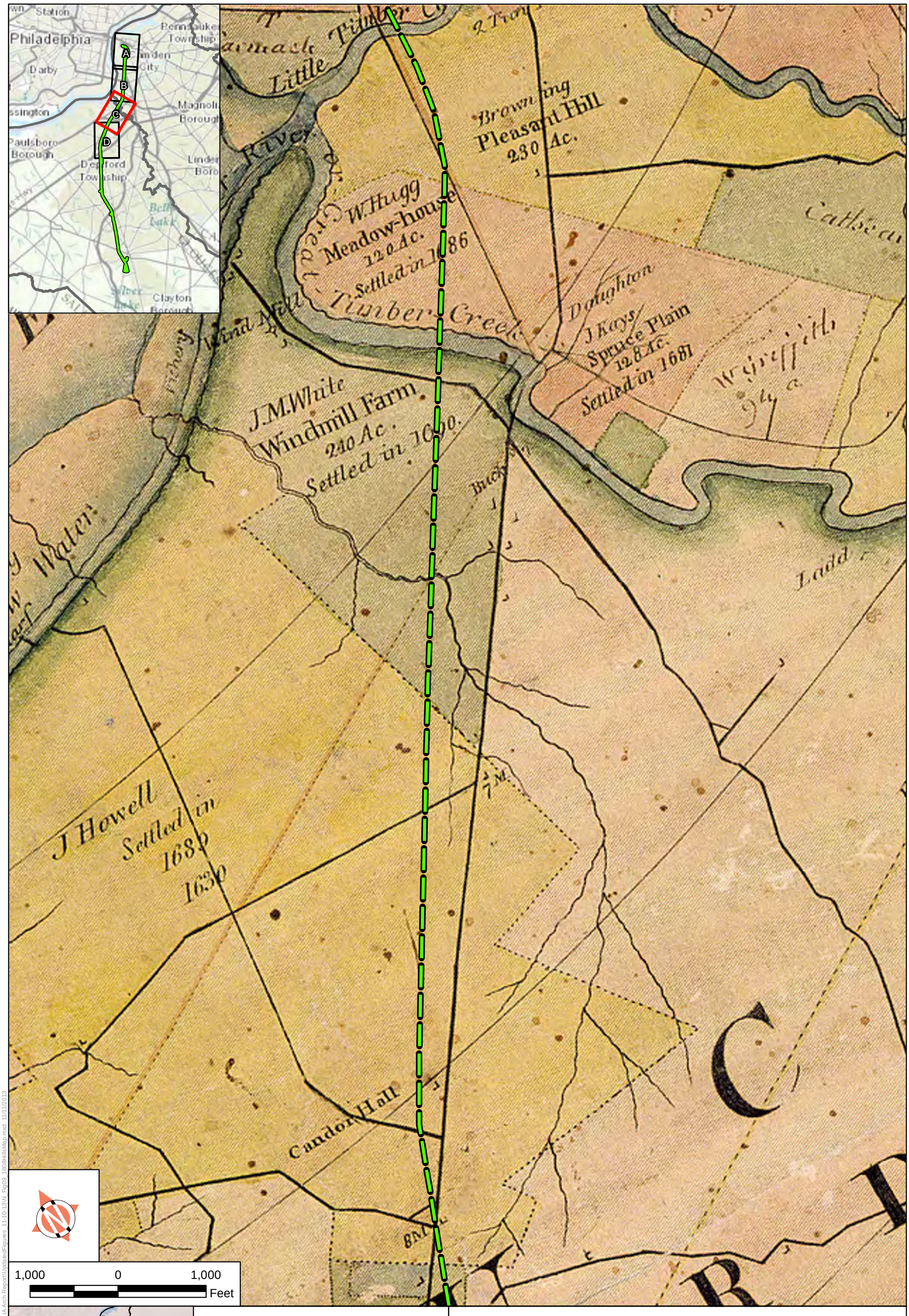
Figure 9B
1808 Hills Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Camden County Historical Society



Area of Potential Effects (APE) - Approximate

Figure 9C
1808 Hills Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Camden County Historical Society

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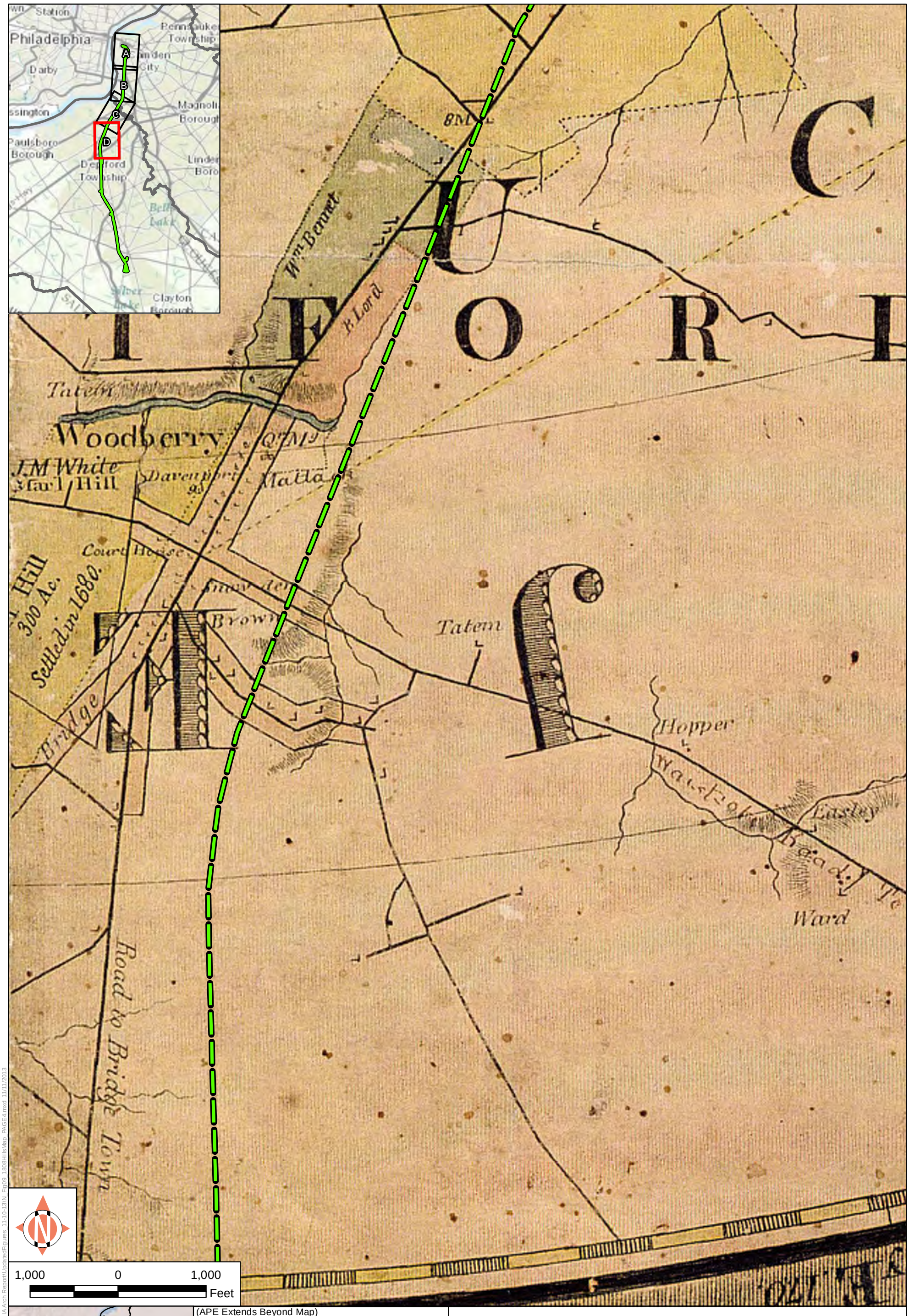

Figure 9D
1808 Hills Map
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Camden County Historical Society

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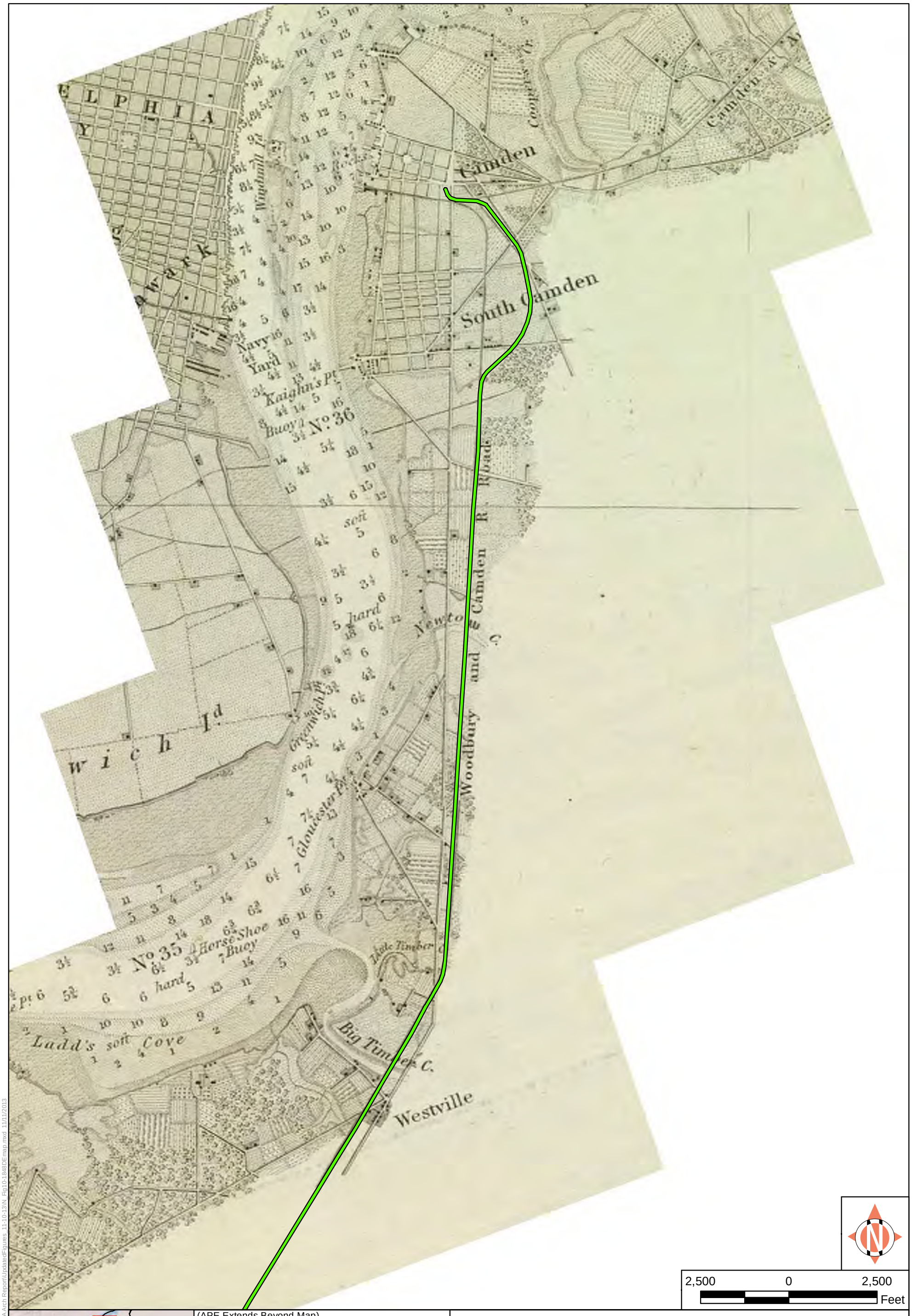

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Glassboro-Camden Line
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Source: USC&GS, www.davidrumsey.com

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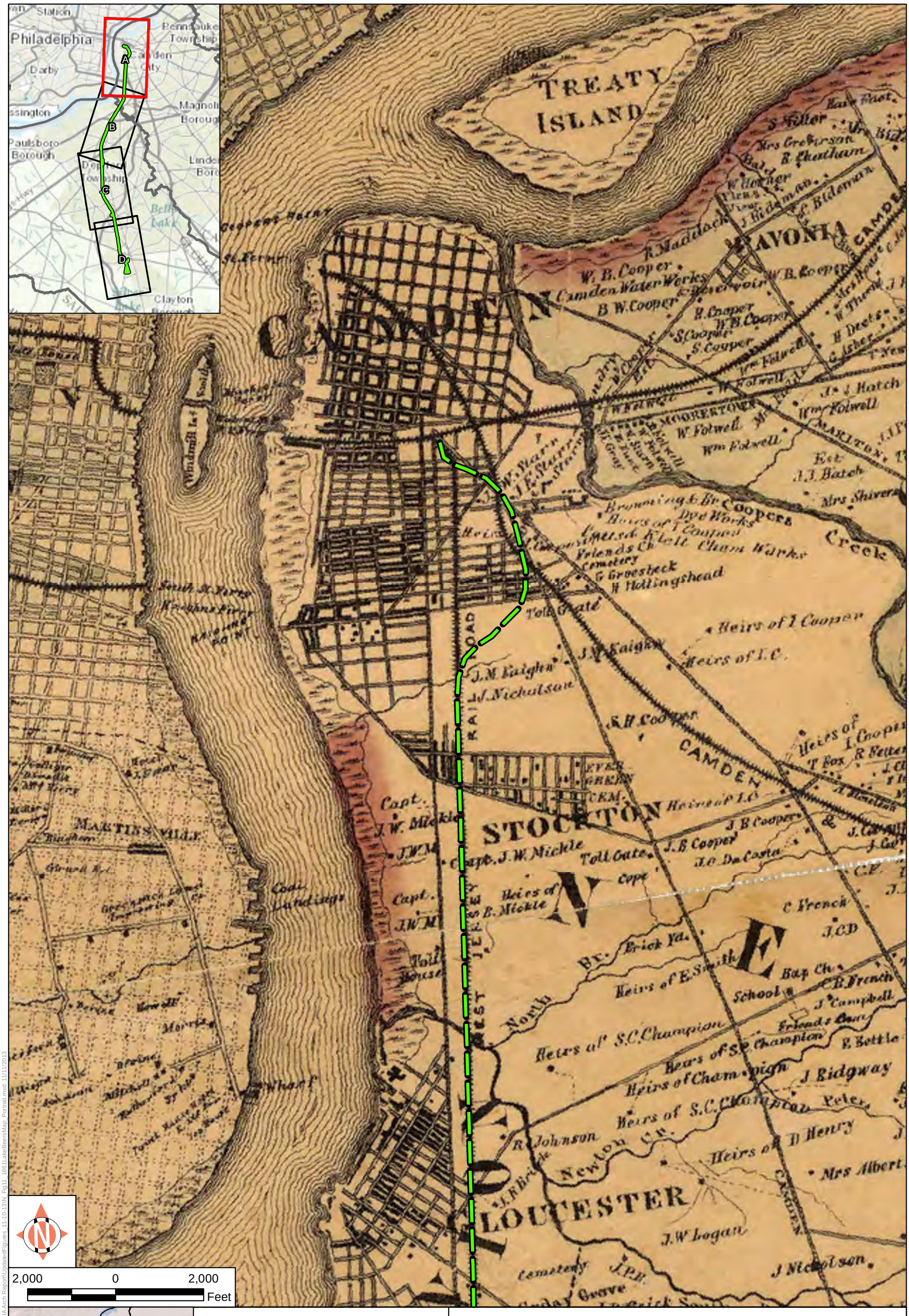

Figure 11A
1861 Lake and Beers Map of Philadelphia Vicinity
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Pennsylvania State Archives

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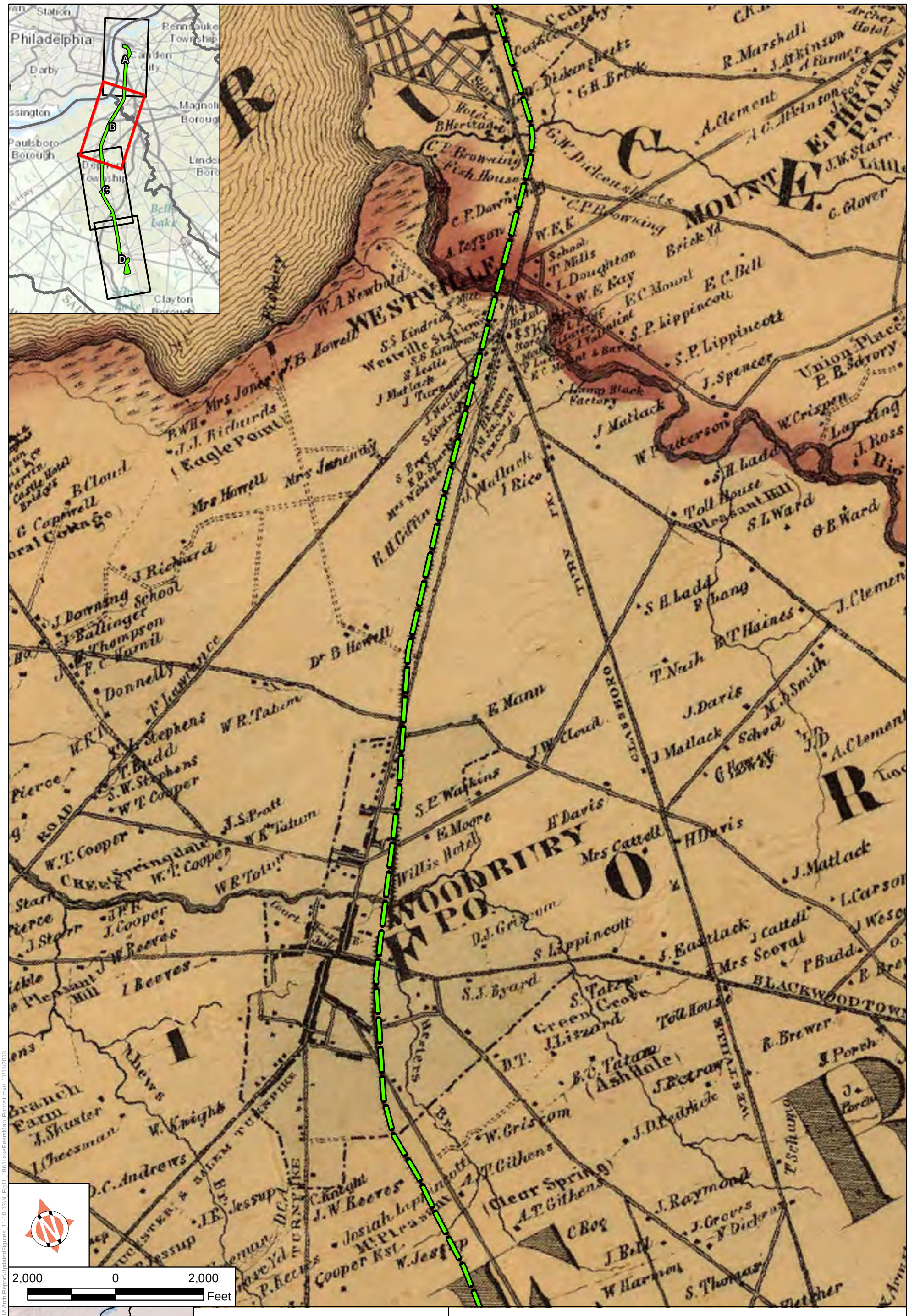

Area of Potential Effects (APE) - Approximate

Figure 11B
1861 Lake and Beers Map of Philadelphia Vicinity
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Pennsylvania State Archives

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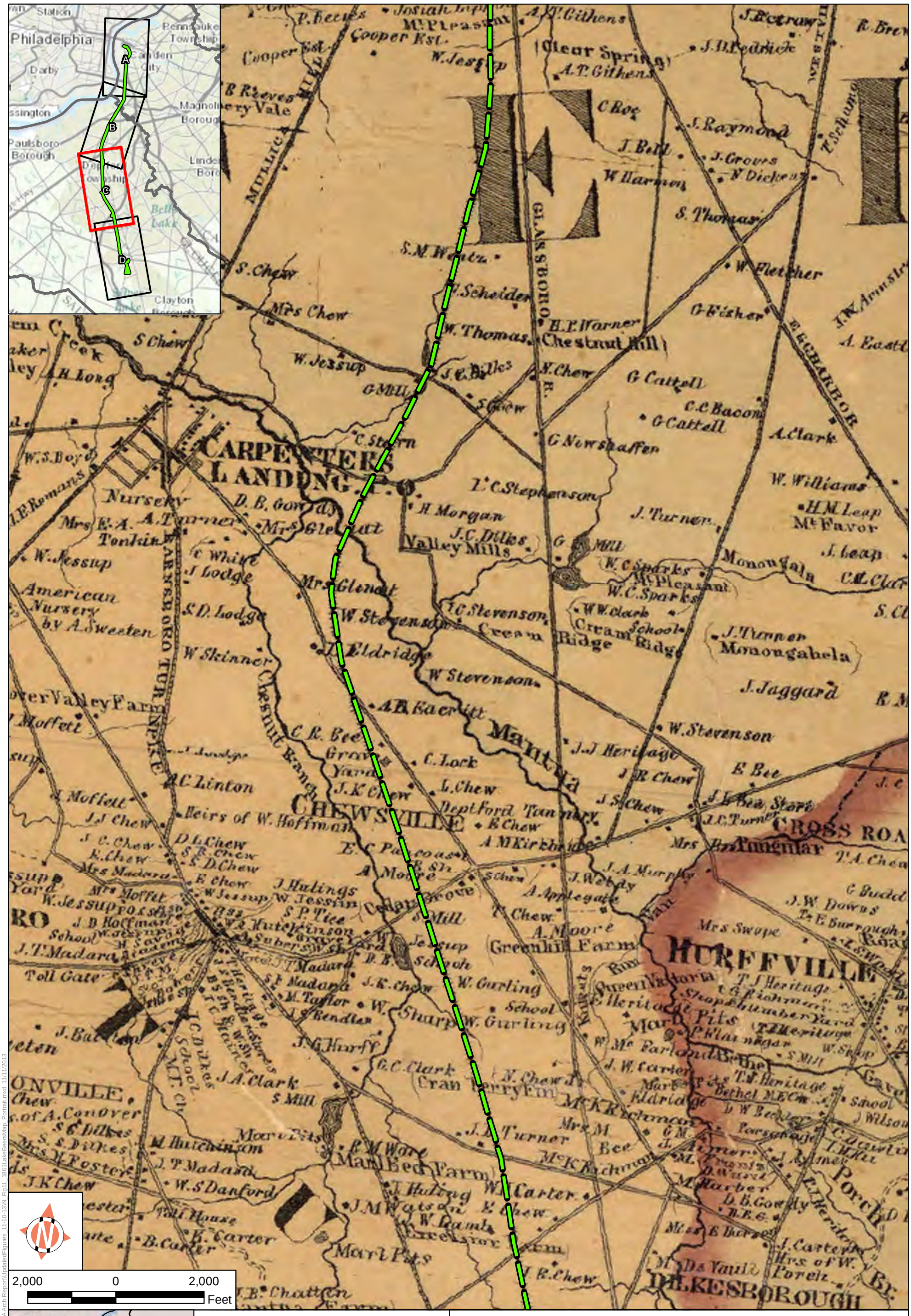

Figure 11C
1861 Lake and Beers Map of Philadelphia Vicinity
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Pennsylvania State Archives

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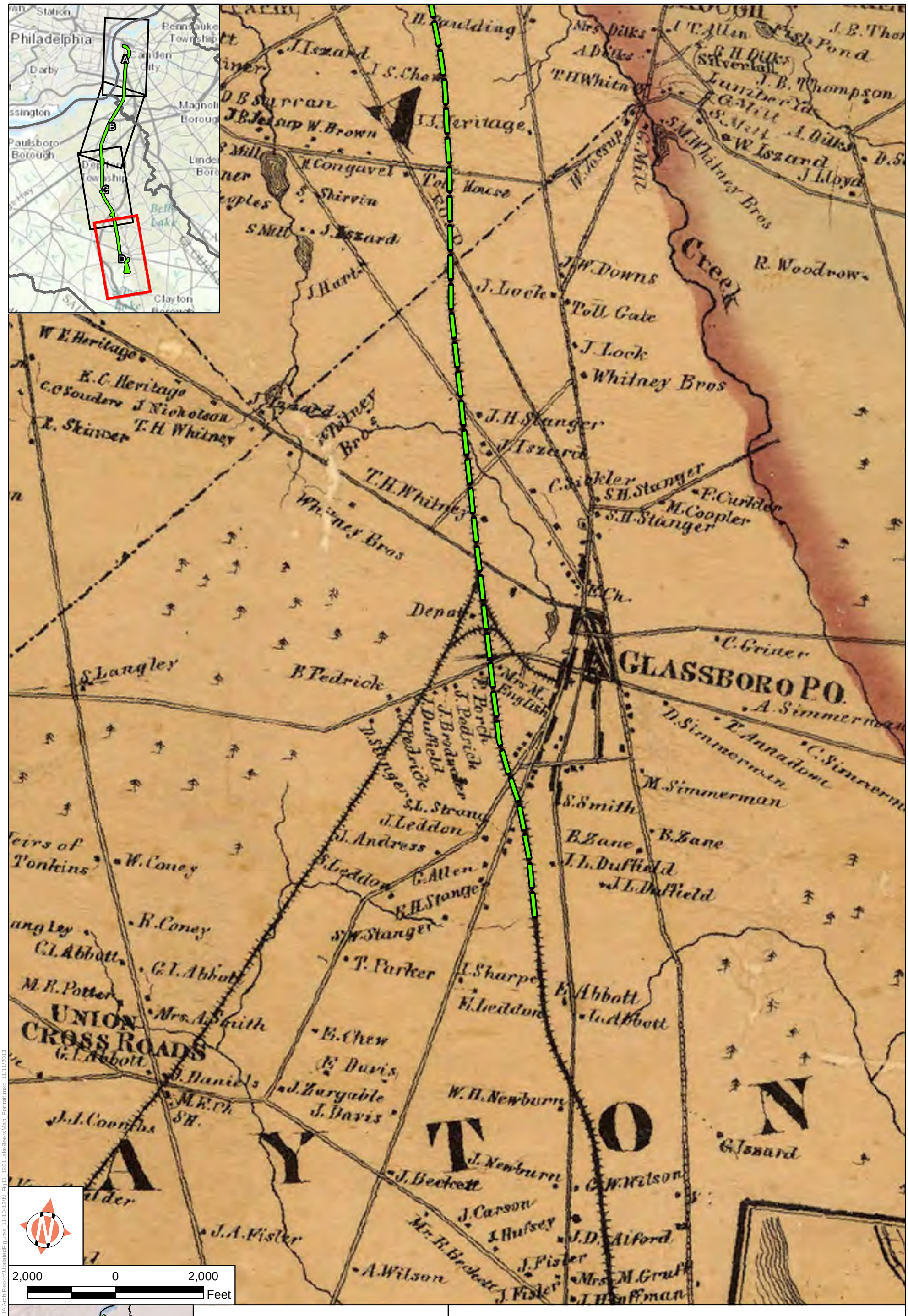

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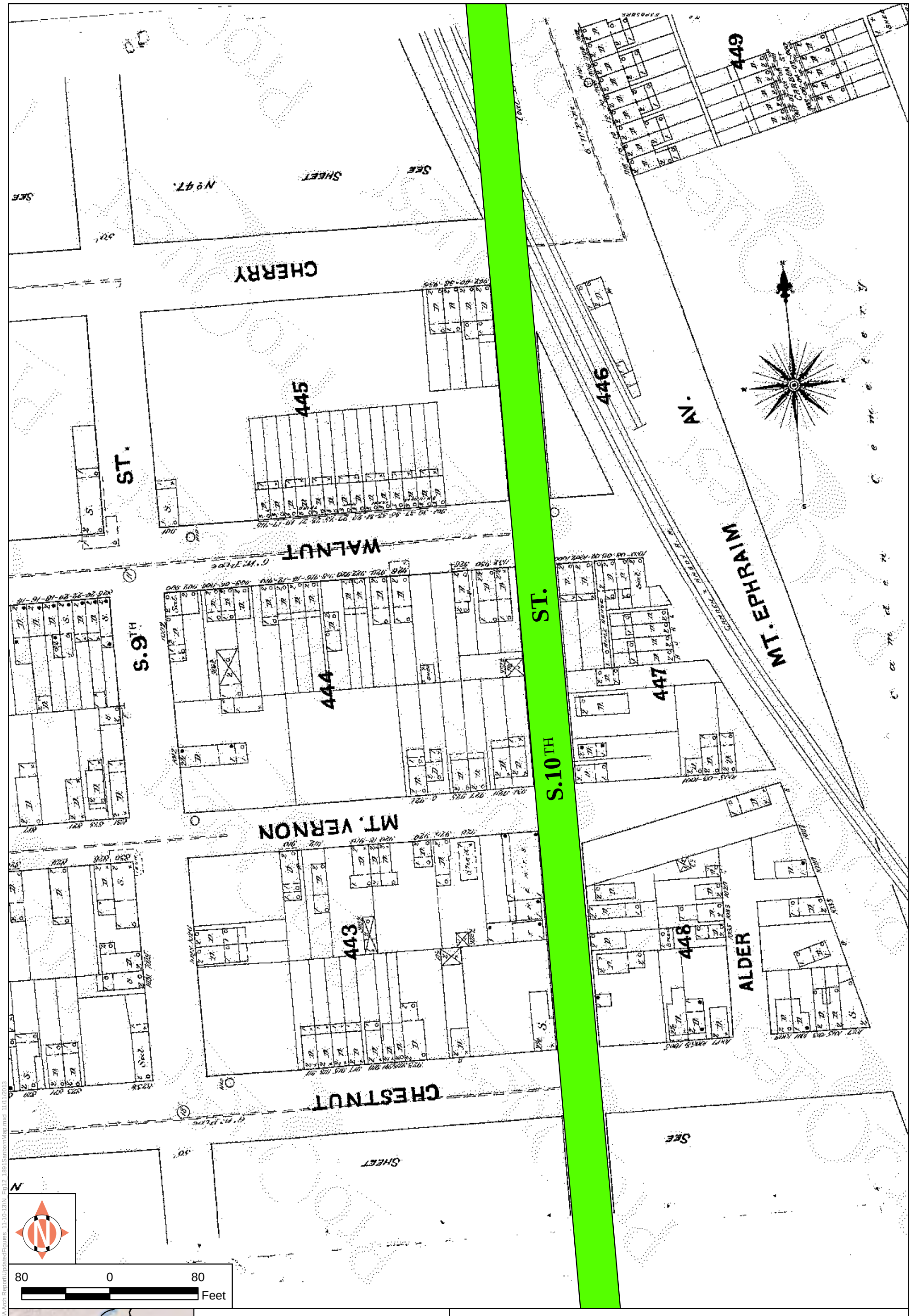
Figure 11D
1861 Lake and Beers Map of Philadelphia Vicinity
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Pennsylvania State Archives



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1891 Sanborn Map, Chestnut to Cherry Streets Camden
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Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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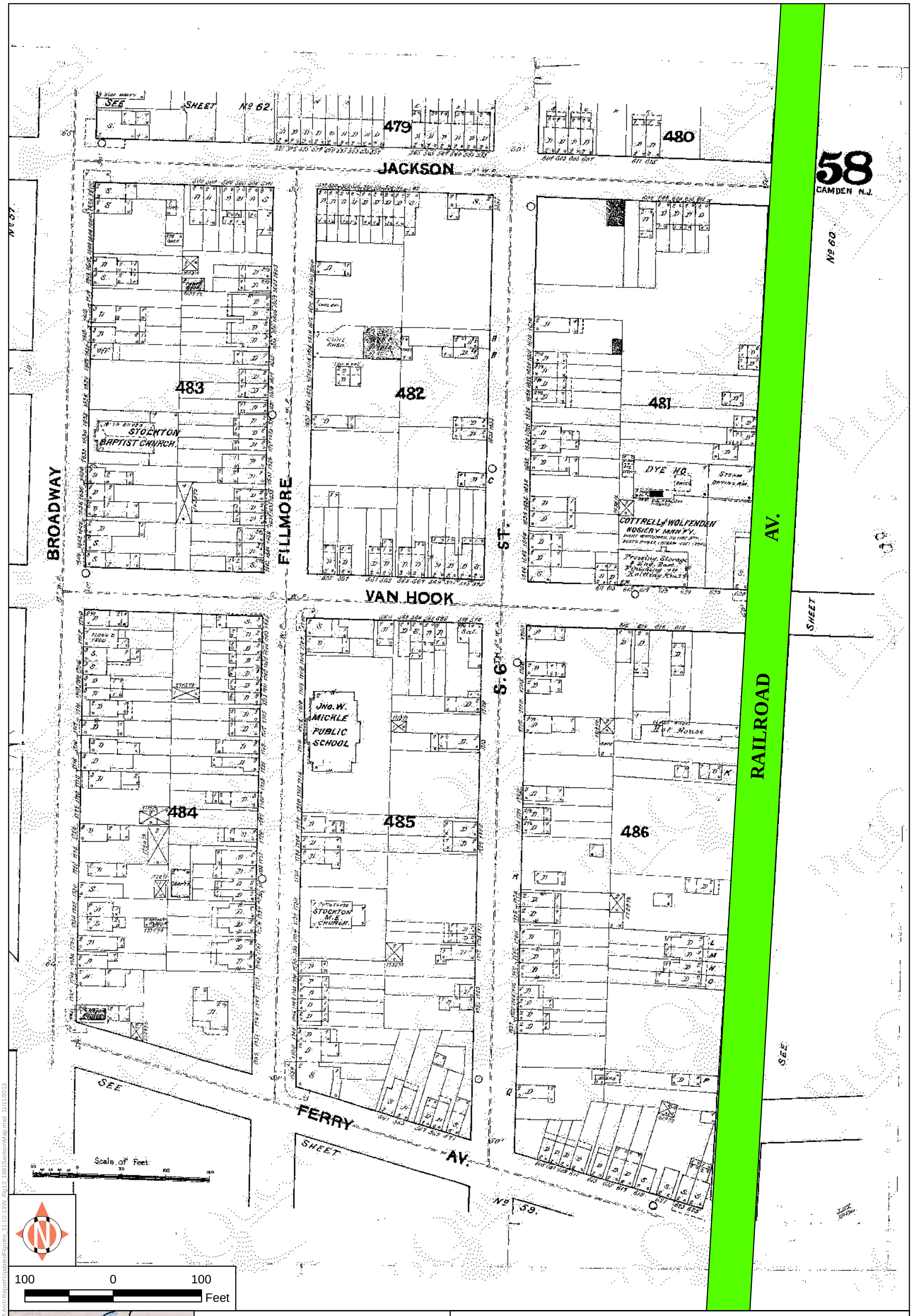

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Figure 13
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Glassboro-Camden Line
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Source: Free Library of Philadelphia

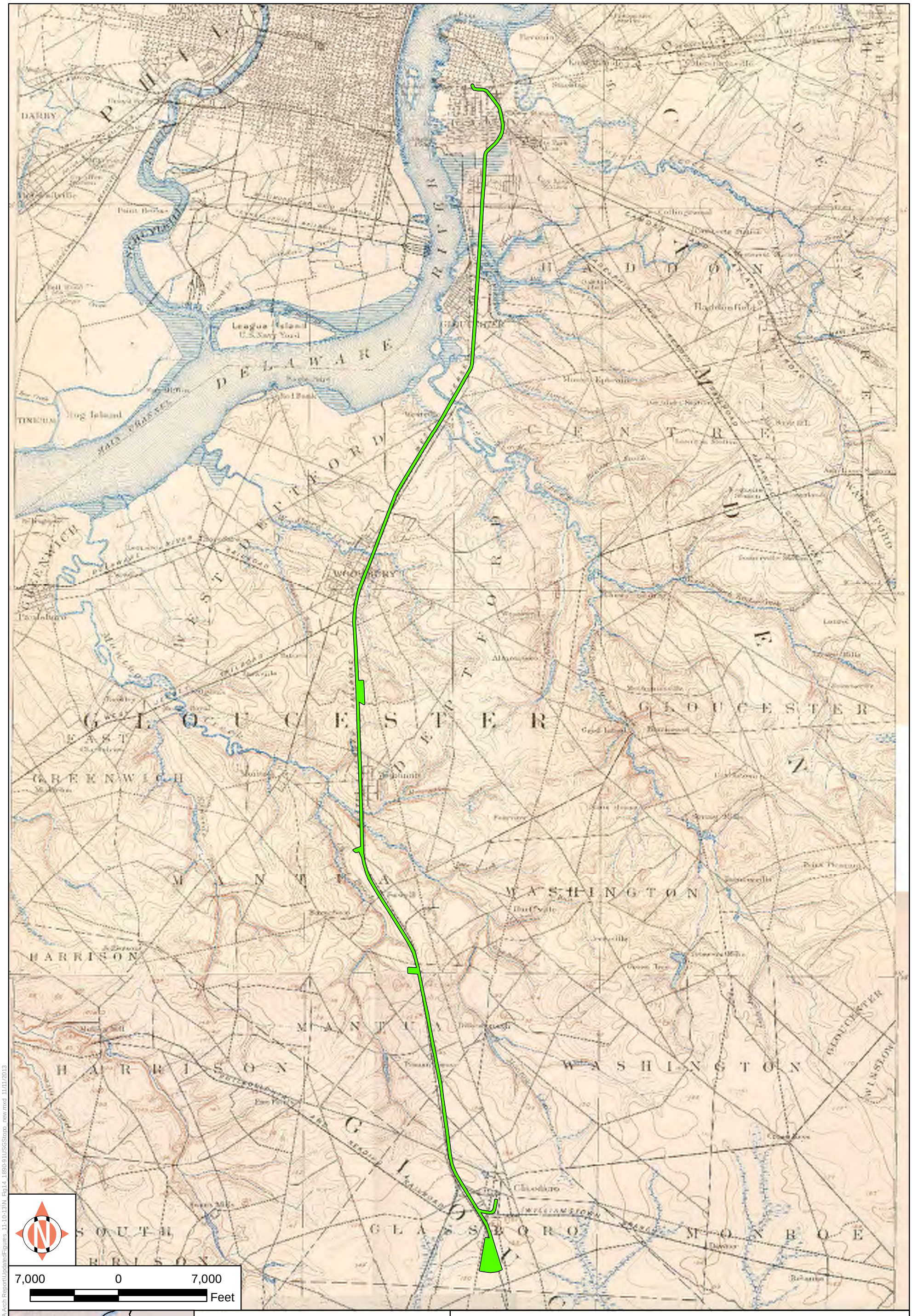

Figure 14
1890-91 USGS Philadelphia
and Glassboro Quadrangles
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Camden and Gloucester Counties, New Jersey

Source: historical.mytopo.com

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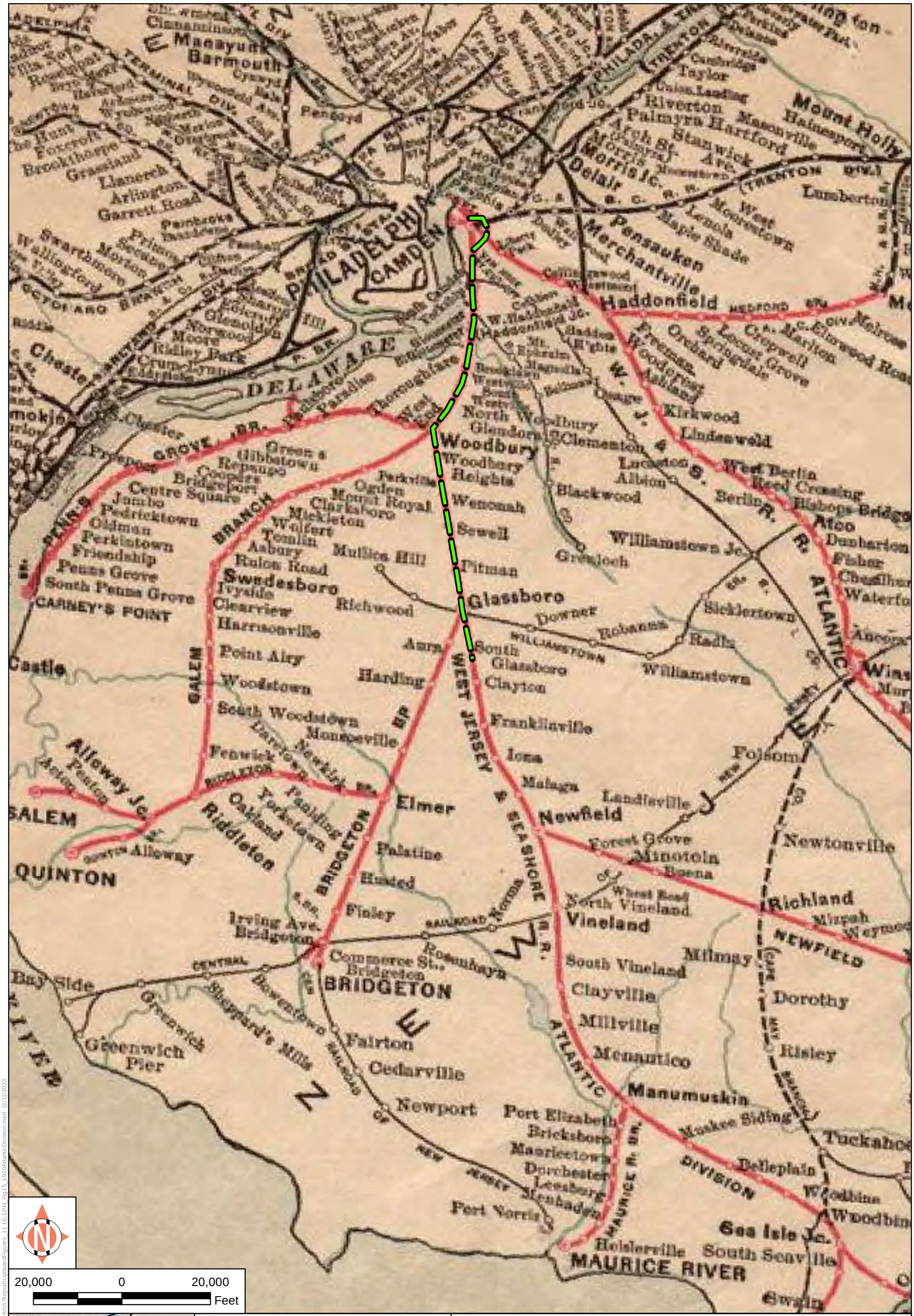

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1920 Pennsylvania Railroad Atlantic Division Map
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Camden and Gloucester Counties, New Jersey

Source: http://www.prrths.com/newprr_files/newPRRResearch.htm

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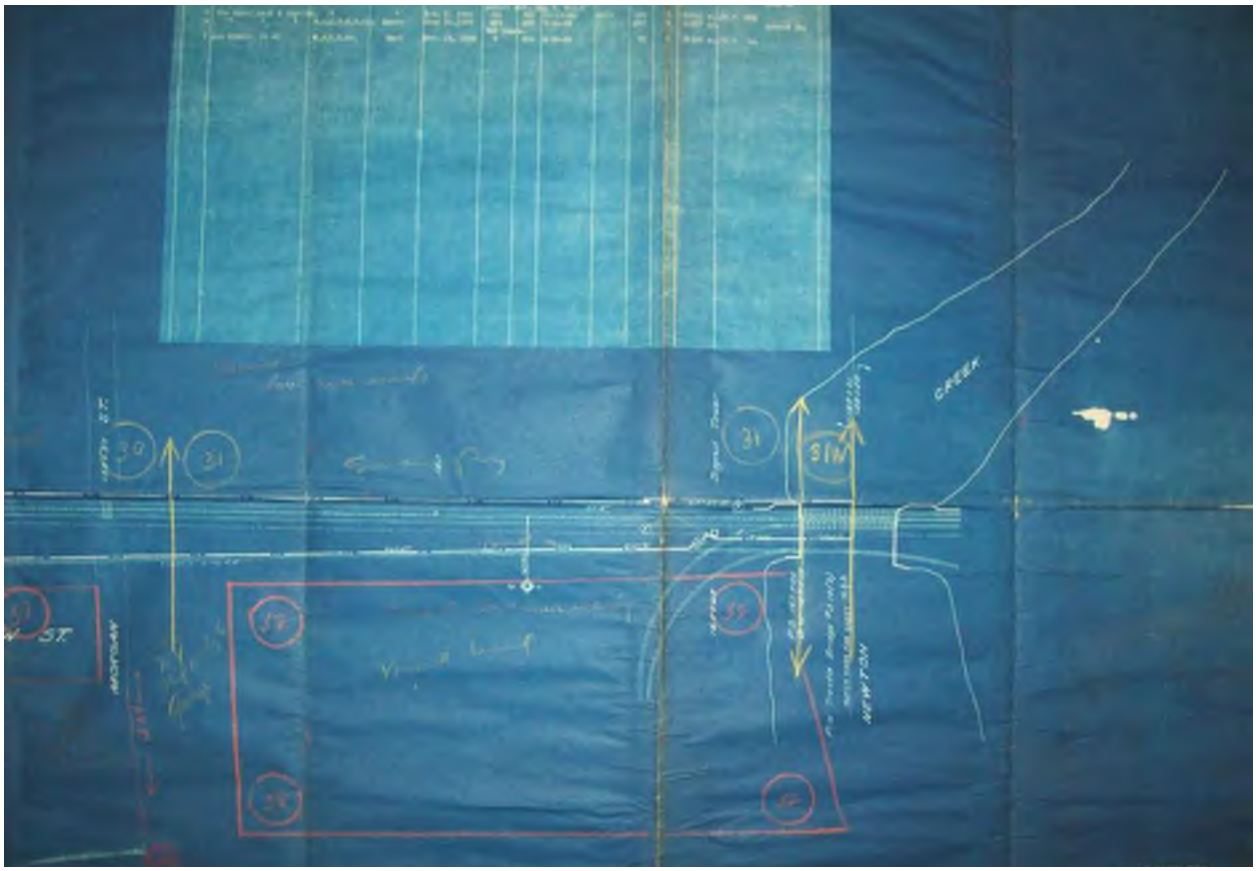

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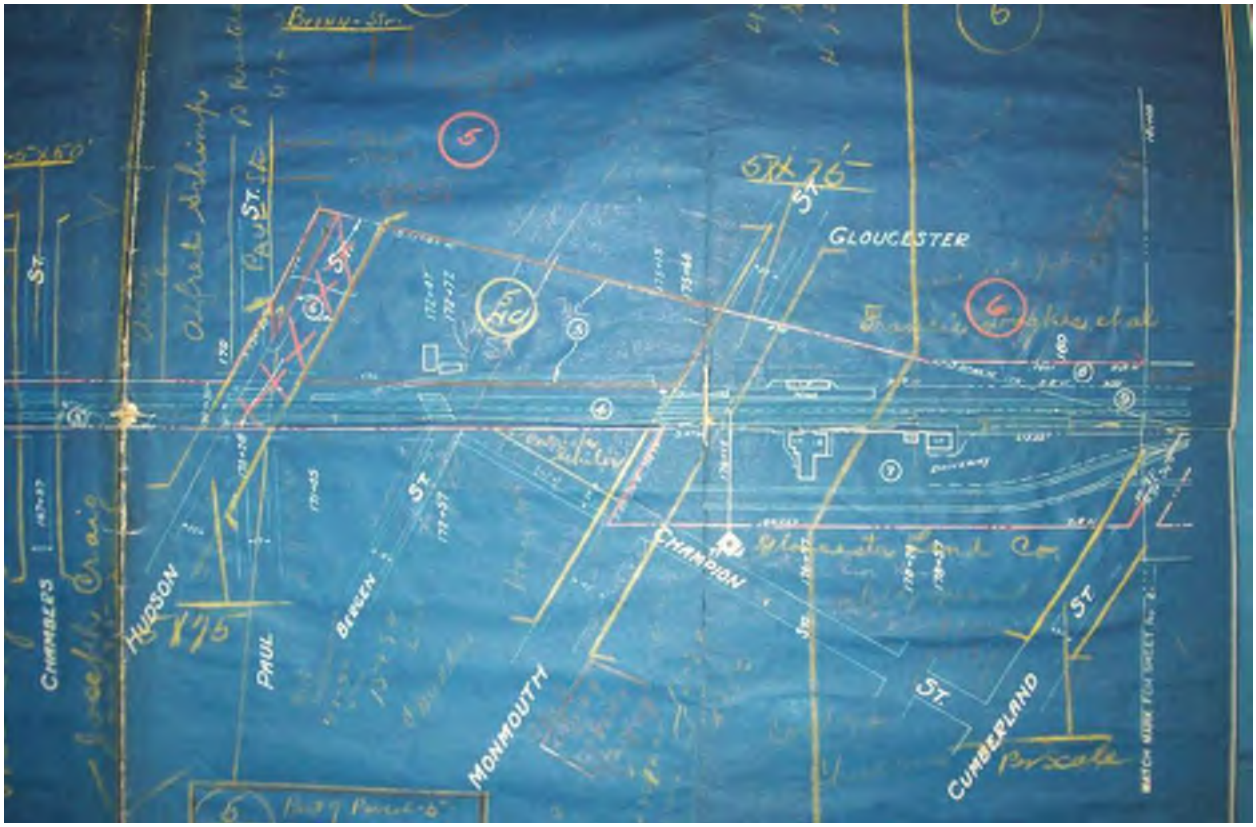

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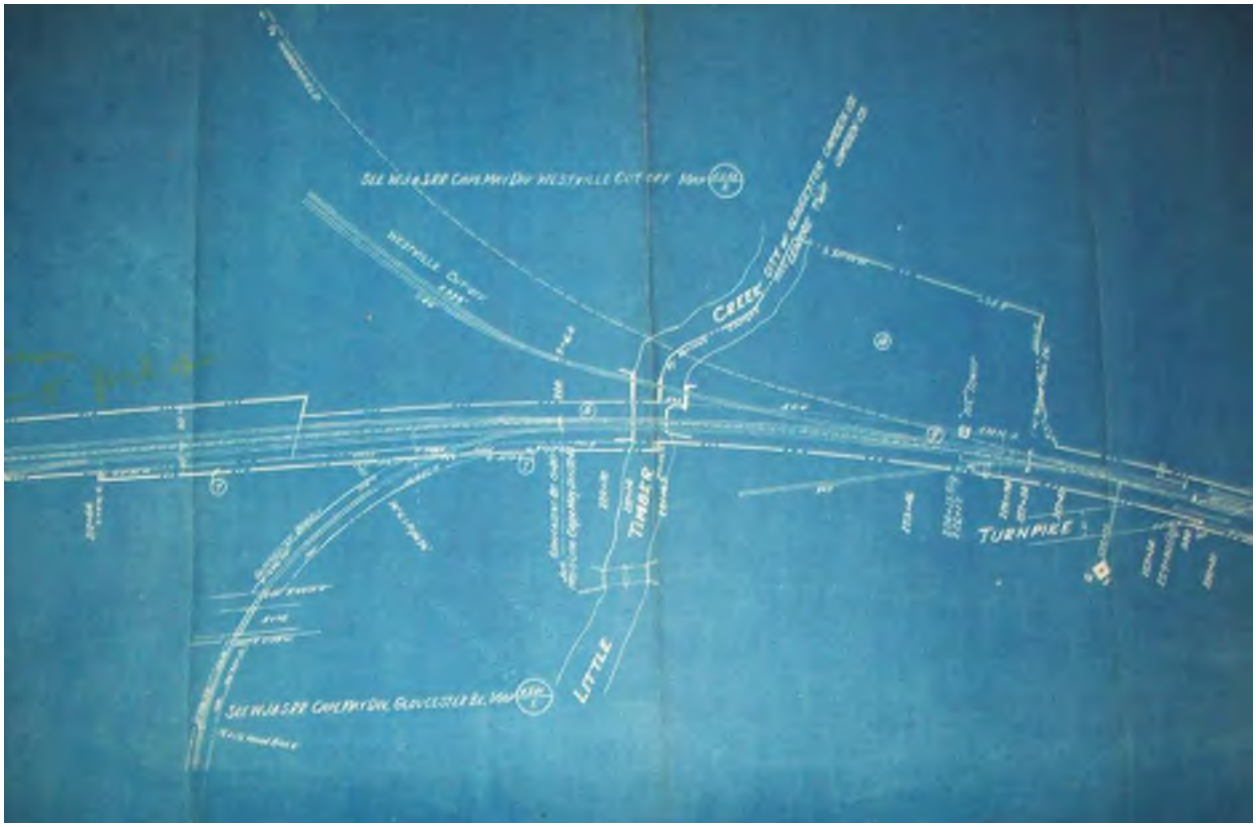

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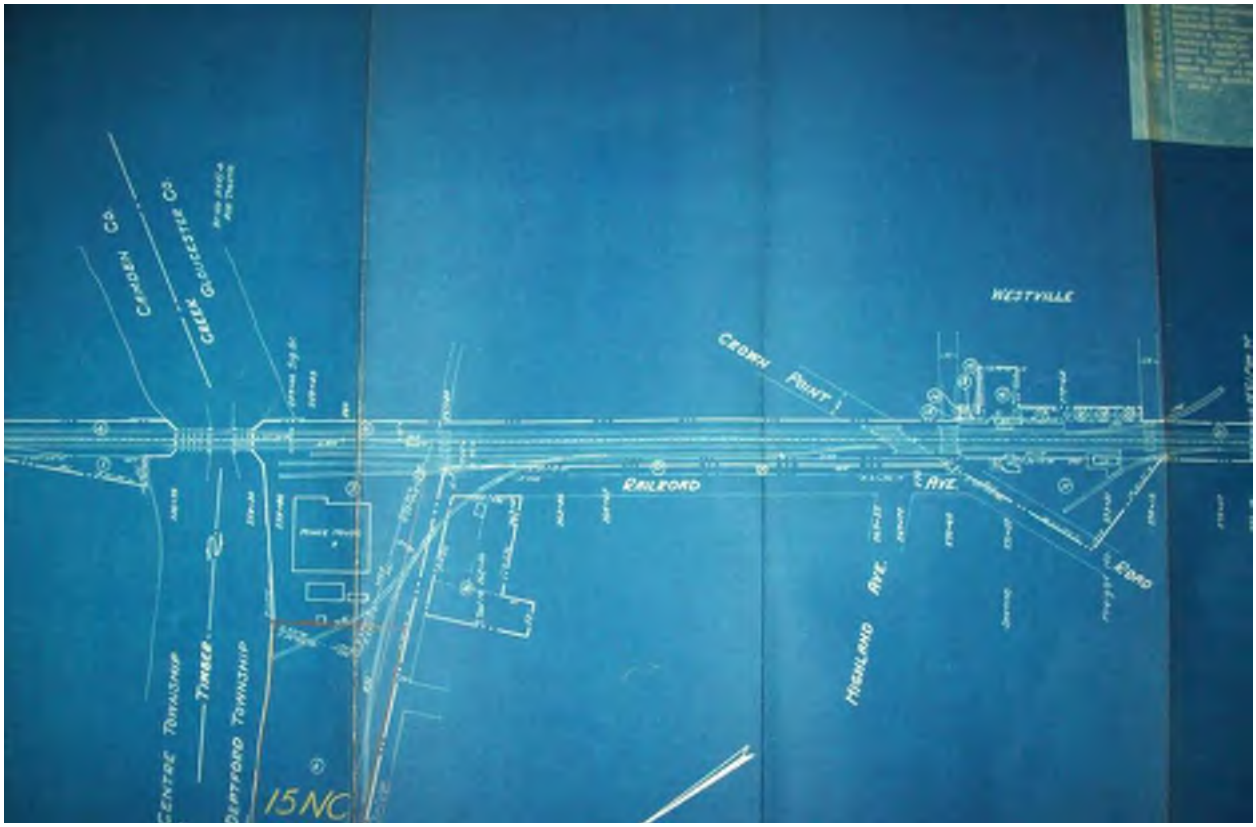

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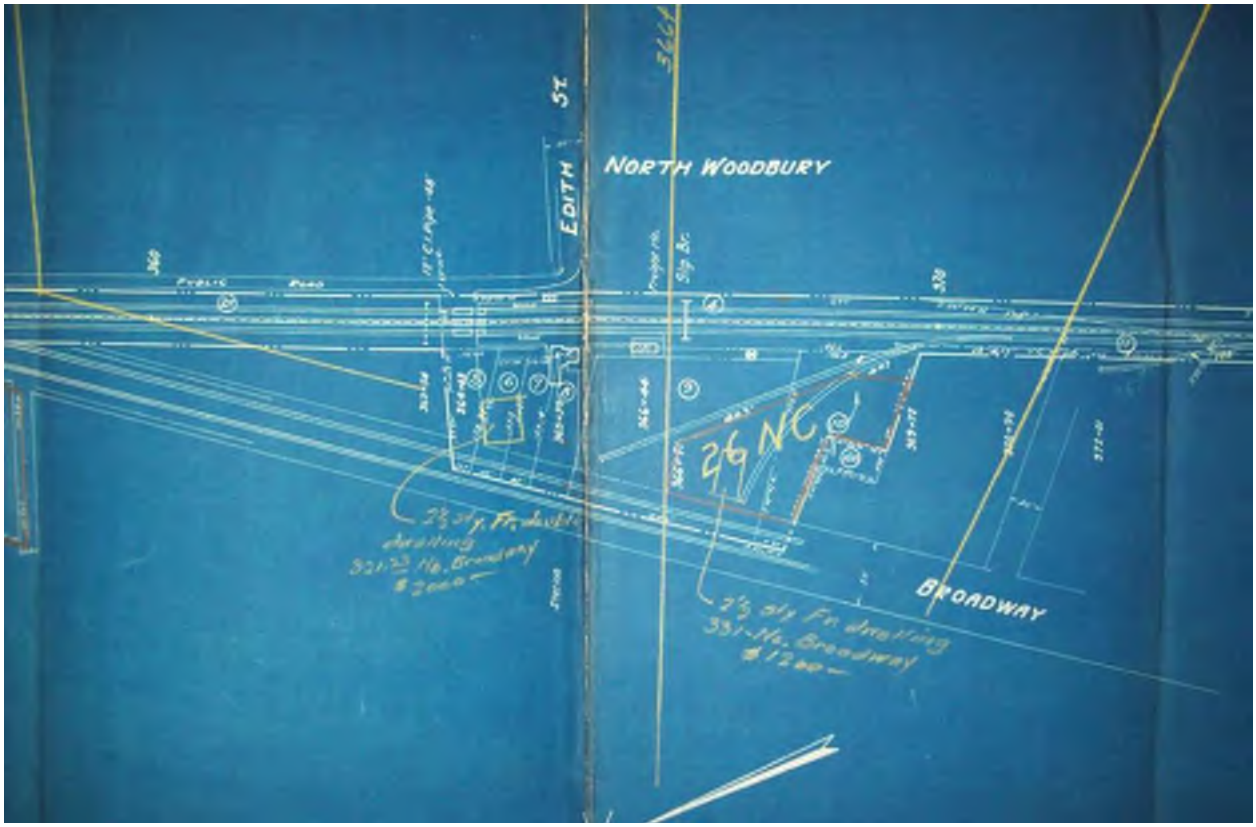

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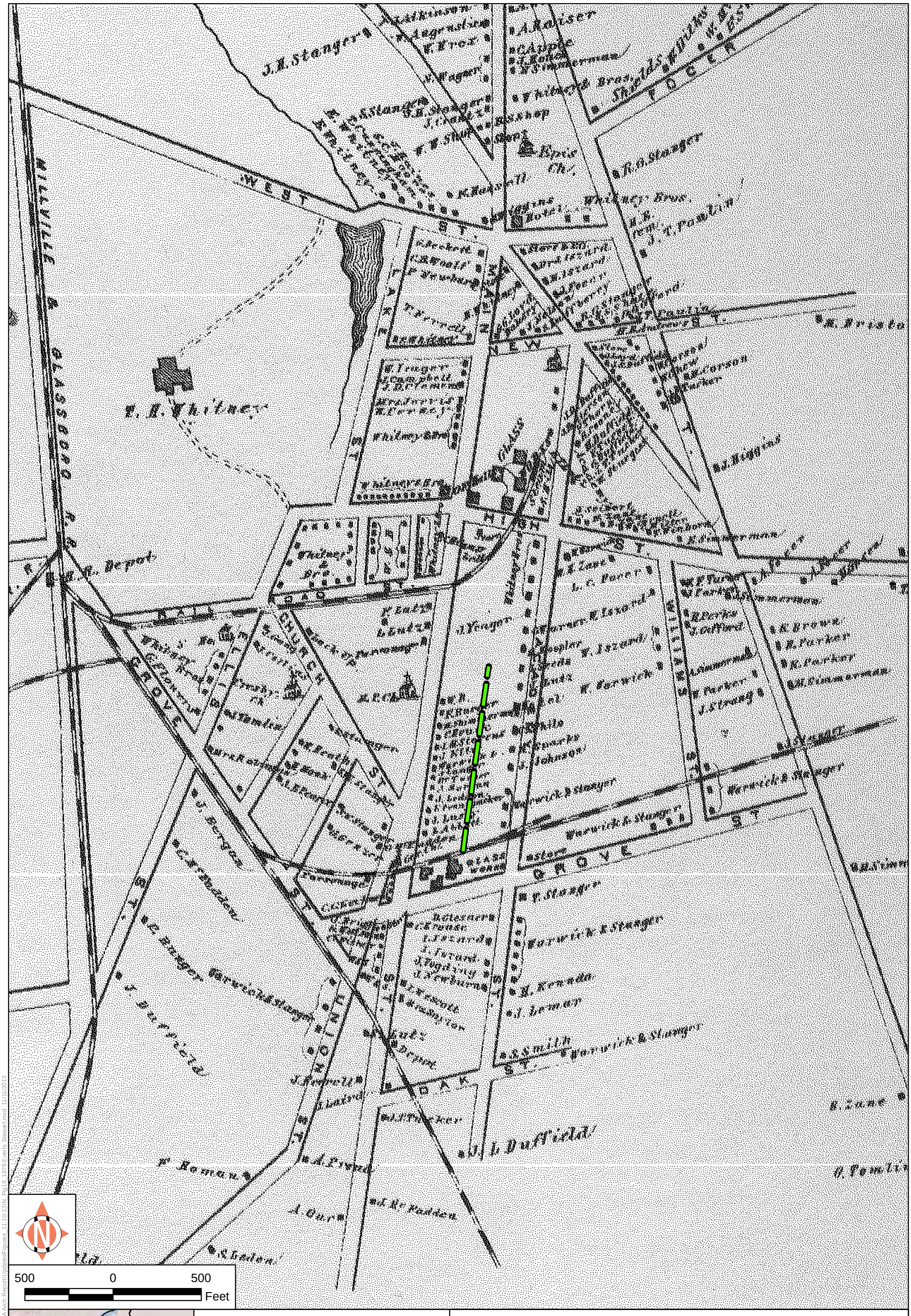
Camden and Gloucester Counties, New Jersey

Source: http://www.prrths.com/newprr_files/newPRRResearch.htm



Proposed Extension into Glassboro - Approximate

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Source: Combination Atlas of Salem & Glouchester Counties, New Jersey; Philadelphia

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Phase IA Archaeological Addendum

Glassboro-Camden Line

Camden and Gloucester Counties, New Jersey

Submitted to:

New Jersey Department of Environmental Protection
Historic Preservation Office
Trenton, New Jersey

Prepared for:

STV, Inc.
1818 Market Street, Suite 1420
Philadelphia, Pennsylvania 19103

February 2014

Prepared by

A.D. MARBLE & COMPANY
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375 East Elm Street
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DRAFT

PHASE IA ARCHAEOLOGICAL ADDENDUM

Glassboro-Camden Line

Camden and Gloucester Counties, New Jersey

Prepared for:

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February 7, 2014

ABSTRACT

This report represents an addendum to the November 2013 Phase IA archaeological survey report conducted by A.D. Marble & Company for the proposed Glassboro-Camden Line (GCL) under consideration for construction in Gloucester and Camden counties, New Jersey. A.D. Marble & Company performed the survey in the summer of 2013 on behalf of the Federal Transit Administration (FTA; lead federal agency); and the Delaware River Port Authority (DRPA), the Port Authority Transit Corporation, and the New Jersey TRANSIT (local joint lead agencies). An Environmental Impact Statement (EIS) is being prepared in compliance with the National Environmental Policy Act of 1969 (NEPA). In addition, since the proposed project requires a United States Army Corps of Engineers (USACE) permit and may involve federal funding, the undertaking must comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and the implementing regulations (36 CFR 800) of the Advisory Council on Historic Preservation. GCL would provide an 18-mile expansion of transit service between Camden and Glassboro. The proposed GCL project corridor generally follows the existing Conrail right-of-way from Glassboro northward to Camden, passing through the communities of Glassboro, Pitman, Sewell, Mantua Township, Deptford Township, Wenonah, Woodbury Heights, Woodbury, Westville, Brooklawn, Gloucester City, and Camden.

This addendum has been prepared in response to agency comments received from the New Jersey State Historic Preservation Office (NJ HPO) in a December 2013 letter to the United States Department of Transportation (USDOT). The NJ HPO requested additional planning information and more detailed project mapping before evaluating recommendations offered in the Phase IA survey report. The addendum also provides an opportunity to present proposed design changes and project conditions as of February 2014.

Much of the project corridor will pass through areas with limited archaeological potential or would remain within the confines of the previously disturbed rail corridor. The rail corridor itself represents a resource of varying (but at times considerable) archaeological preservation, and has been evaluated both as an important industrial resource and an agent of disturbance. A spur line to a proposed vehicle maintenance facility (VMF) is currently planned in the southern portion of the former location of the Glassboro station at Railroad Avenue. This location contains numerous railroad features, and avoidance of this location during this and subsequent projects is strongly recommended. Phase IB archaeological survey is recommended for ten potential test areas (PTA) pending assessments of site integrity as well as radiological or other hazardous conditions at some of the areas. An alternative mitigation study is recommended in Camden from Wright Street south to Kaighns Avenue due to the proposed use of elevated track support structures with currently uncertain impact locations and narrow nature of the project corridor. An alternative mitigation may also be considered at the location of a proposed rail line extension into Glassboro parallel to Main Street.

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1.0 Introduction

1.0 INTRODUCTION

The following addendum report was prepared as a supplement to the Phase IA archaeological evaluation conducted by A.D. Marble & Company of Conshohocken, Pennsylvania, for a proposed light commuter rail project in southern New Jersey extending south from the City of Camden in Camden County to Glassboro in Gloucester County. The project is described as the Glassboro-Camden Line (GCL) Light Rail Project. The preparation of this Phase IA study was undertaken to fulfill requirements of Section 106 of the National Historic Preservation Act of 1966. This study was therefore both parallel to and separate from the National Environmental Policy Act of 1966 (NEPA) process but ultimately contributed to fulfillment of agency NEPA responsibilities.

The Phase IA archaeological survey report was submitted in November 2013. Agency comments were received in the form of a letter dated December 3, 2013, from Daniel Saunders, Deputy State Historic Preservation Officer of the New Jersey State Historic Preservation Office (NJ HPO), to Letitia Thompson of the United States Department of Transportation (USDOT; the Federal Transit Administration [FTA] is the lead federal agency for the project). The letter included the following comments:

> The Phase IA report includes valuable information to understand the previous historic and Native American land use within the project's area of potential effect (APE). The HPO agrees with the background research and the general sensitivity outlined in the report. However, due to the preliminary nature of project plans, it is not possible to fully assess the potential to encounter archaeological resources throughout the APE. *Therefore, the HPO cannot concur with the need or lack of need for additional archaeological survey within portions of the APE at this time based on the lack of detailed project plans. Once plans for the construction of the light rail are fully developed, the HPO will be better able to provide guidance on the need for any further survey* [emphasis in original].

A follow-up phone conference on December 19, 2013, involved representatives of A.D. Marble & Company, STV Corporation, and Vincent Maresca and Caroline Scott of the NJ HPO. The conference consisted of a discussion of project plans as of that date and enabled Mr. Maresca and Ms. Scott to define the nature of the desired additional data. At the request of the HPO, the project limit of disturbance (LOD) has been presented on aerial photography map sheets adapted from the historic resources report prepared by A.D. Marble & Company for the same project. The overall LOD has been refined and permanent and temporary construction-related impacts were further developed since the

discussions in December. The LODs for both permanent and temporary (construction-related) impacts have been combined to form the archaeological Area of Potential Effects (APE) presented on the enclosed figures. The map sheets are included herein as Figure 1, Map Sheets 1 to 13. Permanent and temporary LODs have been refined since the November and December meetings. As a consequence, various potential test areas (PTAs) are indicated on Figure 1. These various PTAs are also discussed in greater detail later in this section.

Additional figures are included to amplify the analysis of project impacts, particularly at the northern end of the APE in Camden. These figures primarily consist of Sanborn Insurance Company maps dated 1891 and 1906 that illustrate the project corridor south from Bridge Avenue (modern-day Dr. Martin Luther King, Jr., Boulevard) to Atlantic Avenue (Figures 2 to 9). A separate 1891 Sanborn Map (Figure 10) illustrates the proposed location of the South Camden Station; two proposed parking lots west of the tracks between Van Hook Street and Jackson Street are currently under consideration.

Two maps examine archaeological impacts in Glassboro at the opposite end of the corridor. A detail of the 1916 Interstate Commerce Commission (ICC) valuation map for the former Railroad Avenue Station is provided as an overlay on a modern aerial photograph (Figure 11). The composite figure also illustrates the proposed course of a new spur track that will connect with a Vehicle Maintenance Facility (VMF) along Sewell Street to the south. The proposed alignment of a track into the center of Glassboro parallel to Main Street is shown on the 1876 Everts and Stewart Map of Glassboro (Figure 12).

1.1 Project Description

The GCL Light Rail Project is a proposed 18-mile expansion of transit service in southern New Jersey that would traverse 11 communities between Camden (Camden County) and Glassboro (Gloucester County): Camden, Gloucester City, Brooklawn, Westville, Woodbury, Woodbury Heights, Wenonah, Deptford Township, Mantua Township, Pitman, and Glassboro. The proposed project would provide 14 new transit stations, including 12 walk-up stations and two park-and-ride facilities.

The proposed GCL would restore passenger rail service primarily along the existing Conrail freight corridor between Camden and Glassboro. The northern end of the corridor would share tracks with the existing New Jersey TRANSIT RiverLINE from the Camden waterfront through the Walter Rand Transportation Center (WRTC) in downtown Camden. The GCL would operate as its own service from

WRTC south to Glassboro. The proposed project would use diesel-powered light rail vehicles similar to the RiverLINE and would be designed to provide two tracks for light rail use: one for northbound and one for southbound service. In general, this service would operate at-grade, but some portions would be elevated to pass over existing roads and waterways. Gated crossings would be used for at-grade crossings along the Conrail freight corridor. The GCL would operate within an urban environment along and within existing streets and roads at the northern end of the proposed alignment.

The GCL service would leave the WRTC on the existing in-street RiverLINE alignment along a portion of Dr. Martin Luther King Boulevard. The line would be elevated from Haddon Avenue near Cooper Hospital south to Cherry Street. Initially, the line would be carried on an aerial structure consisting of tracks supported on piers. The elevated structure would curve southward and continue adjacent to Interstate 676 (I-676), running roughly along modern-day 9th Street. The line would be supported by a filled embankment retained within vertical walls from Pine Street south to Cherry Street. The embanked portion of the line would be carried over cross streets by newly constructed bridges. The line at Atlantic Avenue would encounter or lie closely parallel to the historic route of the Woodbury and Camden Railroad, which was later known as the West Jersey and Seashore Railroad.

The proposed alignment would become elevated on piers again in South Camden from south of Jackson Street to north of Morgan Boulevard near an interchange with I-676. The proposed alignment would then return to grade and shift to the Conrail right-of-way along the east side of the existing freight track between Morgan Boulevard and Newton Creek. The alignment would then continue east of, and parallel to, the existing freight track on two new light rail tracks at-grade to Woodbury City.

En route to Woodbury City, the proposed GCL alignment would cross over Newton Creek and pass beneath Interstate 76 (I-76)/Walt Whitman Bridge. The proposed alignment would traverse Gloucester City, cross Little Timber Creek, extend through Brooklawn Borough, cross Big Timber Creek, and enter into Westville Borough. The proposed GCL alignment would then cross beneath Interstate 295 (I-295) and cross over Red Bank Avenue and Woodbury Creek as it continues to Woodbury City. South of Woodbury City, the proposed GCL alignment would continue at-grade to Glassboro Borough on two tracks made up of the existing freight track and a new track, which would be generally centered in the existing freight railroad right-of-way. En route to Glassboro Borough from Woodbury City, the proposed GCL alignment would cross beneath the New Jersey Turnpike through Woodbury Heights Borough,

continue through Wenonah Borough and Mantua Township, then cross over New Jersey Route 55 (NJ Route 55) and enter Pitman Borough. South of Pitman Borough, the proposed GCL alignment would enter Glassboro Borough and continue adjacent to Rowan University as it crosses S.R. 0322. The southern segment of the proposed alignment in Glassboro Borough would follow a new right-of-way, diverge from the existing freight track at Zane Street, cross Union and Main streets, continue northward within a former rail spur between and parallel to Main and Academy streets, and terminate south of High Street in Downtown Glassboro.

Fourteen potential new stations have been identified, namely:

- Two stations in Camden City (Cooper Hospital Station and South Camden Station);
- One station in Gloucester City (Gloucester City Station);
- One station in Westville Borough (Crown Point Road Station);
- Two stations in Woodbury City (Red Bank Avenue Station and Woodbury Station);
- One station in Woodbury Heights Borough (Woodbury Heights Station);
- One station in Wenonah Borough (Wenonah Station);
- Three stations in Mantua Township (Mantua Boulevard Station, Sewell Station, and Mantua Pitman Station);
- One station in Pitman Borough (Pitman Station); and,
- Two stations in Glassboro Borough (Rowan University Station and Glassboro Station).

As noted, 12 of the 14 stations would be walk-up stations, with the South Camden, Crown Point Road, Mantua Boulevard and the Mantua/Pitman stations proposed to include park-and-ride facilities. With the exception of the Cooper Hospital Station, South Camden Station, and Red Bank Avenue Station, stations would be located at existing ground level. Stations would be configured with center platforms, primarily from Woodbury City north, and side platforms, primarily south of Woodbury City. Platforms would be approximately 280 feet long to accommodate a two-car train. All stations would include facilities for bicyclists and pedestrians, including bike racks, sidewalks, and crosswalks. The proposed project would also include connections to the regional bus system. Ancillary facilities such as signal houses and crossing cases, as well as a maintenance and storage facility, would also be constructed. The maintenance and storage facility would be a full-service maintenance facility capable of providing the GCL project's needs for regular preventative and unscheduled corrective vehicle maintenance and

maintenance-of-way equipment. Two potential locations for the VMF, both in Gloucester County, are currently under evaluation: one in Woodbury Heights and one along Sewell Street in Glassboro. It should be noted that the Sewell Street location was proposed after the Phase IA archaeological survey report was submitted and replaces a location further to the south that is no longer under consideration. Two proposed parking facility locations are also included in this project. Both locations are in Camden City and are currently under evaluation for development of a 200-car surface parking lot near the proposed South Camden Station. The relocation of a belowground gas pipeline for south of Chelton Avenue in Camden City to south of Somerset Street in Gloucester City has been added to the project.

Proposed roadway improvements associated with the project include: construction along S. Railroad Avenue in Gloucester City; roadway and sidewalk construction at the intersection of Washington and Park avenues in Woodbury City; roadway widening along Tylers Mill Road in Mantua Township; and roadway and intersection improvements at Mullica Hill Road/S.R. 0322 in Glassboro Borough. Proposed off-corridor roadway improvements are proposed at the intersection of Cooper and Evergreen avenues in Woodbury City, and widening for traffic mitigation is proposed at the intersection of Main Street and Tylers Mill Road in Mantua Township.

Since the proposed project requires a United States Army Corps of Engineers (USACE) permit, the project must comply with Section 106 of the National Historic Preservation Act 1966 (as amended), and the implementing regulations (36 CFR 800) of the Advisory Council on Historic Preservation. This Phase I survey was performed in compliance with the Secretary of the Interior's Standards and Guidelines; Section 106 of The National Historic Preservation Act of 1966, as amended; the Procedures for the Protection of Historic and Cultural Properties set forth in 36 CFR 800, as amended; 23 CFR 771, as amended; guidance published by the Advisory Council on Historic Preservation (ACHP); Sections 1(3) and 2(b) of Executive Order 11593; and NEPA

Brooke Blades and Richard White prepared the Phase IA addendum with considerable graphic assistance from Abby Finkenbinder and Frank Dunsmore. A. D. Marble and Company wishes to extend its appreciation to the various archives and websites from which historical maps were obtained, and especially to Andrew and the other staff members in the Cartography Department of the National Archives in College Park, Maryland, for their assistance with the 1916 ICC valuation maps.

2.0 Phase IA Evaluation and Recommendations

2.0 PHASE IA EVALUATION AND RECOMMENDATIONS

This section has been adapted from the earlier Phase IA archaeological survey report in response to more detailed project data and some changes in project plans. The various geographic segments of the proposed GCL project are assessed from the standpoint of potential project impact, archaeological potential, and any recommendations for additional study. Several PTAs are proposed, and each is evaluated in the relevant geographic section.

2.1 Camden to South Camden

Camden north of WRTC (Figure 1, Map Sheet 1; Figures 2 to 9): North of the WRTC, the project will utilize existing tracks installed for the RiverLINE project and will have no impact on cultural deposits. The proposed rail line corridor extends east and south from the WRTC along Dr. Martin Luther King, Jr., Boulevard (former Bridge Avenue) along a former rail corridor opened by the Camden and Amboy Railroad in the early nineteenth century. The APE has been slightly expanded at the WRTC to facilitate the addition of a third track and an additional platform. The corridor will cross Haddon Avenue and diverge from the former track location at 7th Street (Figure 2). A northward loop will carry the corridor through a triangular block south of the former Carman Street; the corridor then turns southward across the former Bridge Avenue into areas marked as "Vacant beyond" on an 1891 Sanborn Map (Figure 3). The GCL tracks will be carried on an aerial structure supported by piers opposite Cooper Hospital and southward adjacent to I-676. An addition to the APE includes a bumpout south of Newton Avenue near the proposed station location (Figure 4), where a proposed parking structure will require the acquisition of Triangle Park in Camden. Several residences stood at this location during the early twentieth century (Figure 5). However, the buildings were likely demolished during the construction of I-676.

Camden block between Carman Street and former Bridge Avenue (Figure 1, Map Sheet 1): **PTA 1** consists of portions of the block bounded by 7th Street (west), former Carman Street (north), and former Bridge Avenue (south). The block lies south of Federal and Market streets, which were laid out in the original town grid in the early nineteenth century. The 1891 Sanborn Map (Figure 3) indicated a series of rowhouses two stories in height facing northward onto Carman Street. Some of the houses had rear ells two stories or one story in height, while others had only narrow one-story additions. The map shows a water main 4 inches in diameter beneath Carman Street, suggesting the houses may have benefited from piped water. The narrow one-story additions may have been rear porches. The destruction date for

these houses is unclear. Phase IB field survey is recommended at this location, provided the demolition of the houses did not severely impact the subterranean deposits on the block. If Phase IB investigations reveal subsurface features of potential interest, mechanical soil removal by backhoe may be employed to facilitate field survey investigations.

Camden Wright Street South to Kaighns Avenue (Figure 1, Map Sheet 1): South of Bridge Avenue, the corridor is carried on the pier-supported aerial structure along the west side of I-676. As indicated on a Sanborn Map of 1906 (Figure 4), the corridor will cross Wright Avenue and extend across former rowhouse locations along Carteret Street to Newton Avenue. The corridor passes through former residential blocks between Haddon and Trenton avenues down to Line Street (Figure 5). At this point, the corridor lies slightly east of 9th Street and crosses Pine, Division, and Spruce streets (Figure 6). The GCL rail corridor south of Pine Street to Cherry Street (Figure 7) will be supported on a filled embankment.

Presently, a narrow strip of ground survives between 9th Street to the west and the embankment for I-676 to the west from Line Street south to Mt. Vernon Street (Figure 1, Map Sheet 1; and Figures 6 and 7). Dwellings clearly stood along these streets in the early twentieth century, and these structures may have been demolished during the construction of I-676. The narrow strip of land at the base of the highway embankment will be very difficult to examine; therefore, it is recommended that alternative mitigation be undertaken for the residential blocks from Wright Street down to Kaighns Avenue, perhaps focusing on the social and economic histories of the development of the blocks in question.

The corridor follows the westward bend of I-676 from Mt. Vernon Street to Kaighns Avenue at 8th Street. Housing development was somewhat less dense here in the late nineteenth and early twentieth centuries, although the blocks south of Mt. Vernon and Chestnut streets were occupied (Figures 7 and 8). The corridor extends southwestward through an area that is currently largely open south of Kaighns Avenue to the modern-day junction of 7th Street and Atlantic Avenue. The former location of 7th Street lay to the east of the current location. The 1891 Sanborn Map (Figure 9) indicates that the GCL corridor passes through residential areas and the former site of Farr and Bailey, a firm that manufactured floor oil cloths. An abandoned industrial building stands south of Kaighns Avenue (Figure 1, Map Sheet 1). The construction of this building and the demolition occasioned by the creation of I-676 impacted the

location to a considerable extent, and it is recommended that no additional investigations be undertaken at this location.

2.2 South Camden to Newton Creek

Camden Ferry Avenue south to Newton Creek (Figure 1, Map Sheet 2): The corridor, south of Atlantic Avenue, extends southward on or close to the original route of the Woodbury and Camden Railroad, which operated under different names in the twentieth century. The GCL line becomes an aerial structure supported on piers south of Jackson Street to north of Morgan Boulevard. The South Camden Station is proposed north of Ferry Avenue with an adjacent parking area in the block to the west. An 1891 Sanborn Map (Figure 10) of this location indicates a partially occupied block with houses facing westward to 6th Street, eastward to the rail tracks along Railroad Avenue, and southward onto Ferry Avenue. The location is currently largely open, although some houses are standing (Figure 1, Map Sheet 2). The APE has been expanded to include minor road improvements at Chelten Avenue for the construction of an access road, the relocation of an underground gas utility line, and two proposed parking lot locations.

West of the GCl alignment, project activities include the relocation of a belowground gas pipeline from south of Chelton Avenue in Camden City to south of Somerset Street in Gloucester City. The pipeline will be primarily constructed within public rights-of-way (S. 6th Street and West Railroad Avenue). The APE was expanded to reflect the proposed pipeline alignment and potential impact areas (Figure 1, Map Sheets 2 and 3).

The APE was revised to reflect two locations currently under evaluation for the development of a 200-car surface parking lot near the proposed South Camden Station (Figure 1, Map Sheet 2). One proposed location for the parking lot is north of Van Hook Street/Carl Miller Boulevard and south of Jackson Street, immediately west of the GCL alignment. The second is north of Ferry Avenue and south of Van Hook Street/Carl Miller Boulevard, immediately west of the proposed alignment.

South Camden Station parking lot 6th Street and Van Hook Street (Figure 1, Map Sheet 2): **PTA 2N** will focus on the proposed location of the parking lot north of Van Hook Street/Carl Miller Boulevard and east of 6th Street if plans for the lot continue to be considered. The Sanborn Map suggests the parking lot would be placed over former residences fronting Railroad Avenue and portions of backyards of

residences fronting south 6th Street. The southern extent of the proposed location would be located over the former Cottrell & Wolfenden Hosiery Manufacturers (Figure 10). Buildings located on this lot in 1891 included a processing, storage, finishing and knitting house; and a dye house with a dryer and steam room. The dye house appears to have been covered by asbestos. Testing at the location may be problematic due to hazardous waste issues related to the manufacturing of hosiery, particularly at the location of the dye house.

South Camden Station parking lot 6th Street and Ferry Avenue (Figure 1, Map Sheet 2): **PTA 2S** will focus on the proposed location of the parking lot north of Ferry Avenue and east of 6th Street if plans for the lot continue to be considered. The Sanborn Map suggests that the parking lot would be placed above the rear yards of houses along Ferry Avenue and 6th Street and on the sites of dwellings that once faced the rail tracks. Water pipes extended beneath 6th Street and Ferry Avenue, so these houses may have had piped water.

As was the case with PTA 1, it is recommended that geophysical investigations emphasizing GPR be employed to isolate features of potential interest within the outline of the proposed parking lot. Mechanical trenches may be used to examine any features of interest and to examine the nature of soil stratigraphy in the former dwelling yards. One factor that may affect testing would be any potential radiological hazard at this location (see PTA 3 for further explanation).

South Camden adjacent to Morgan Street interchange (Figure 1, Map Sheet 3): **PTA 3** is located adjacent to I-676 and north of an exit ramp down to Morgan Boulevard. Previous excavations at the diagonally opposite quarter of the interchange to the southeast (Mounier 1976), which were conducted prior to construction of the highway, revealed intact stratigraphy containing evidence of a precontact site (28-Ca-22) near Newton Creek. For planning purposes, a potential test area 70 feet wide (width of LOD) and 300 feet long in the northwest quarter is proposed. Two factors would eliminate the need for testing at this location. If it is determined that construction of the interchange resulted in ground disturbance of sufficient magnitude to eliminate intact stratigraphy, the investigations would be either halted in the field or not undertaken. The second factor relates to the radiological hazards in this portion of Camden due to a gas mantle manufactory (Malcolm Pirnie 1998). Indeed, one of the locations proposed in early GCL planning as a possible VMF (i.e., the southeast side of Newton Creek) was identified as an area with a radiological hazard. If such environmental hazards exist or potentially exist near the Morgan Street

interchange, the proposed testing in PTA 3 will not be undertaken. Such a consideration will also apply to the potential test area PTA 2 at the South Camden Station.

2.3 Newton Creek and Gloucester to Little Timber Creek

Newton Creek into Gloucester (Figure 1, Map Sheet 2): The crossing of Newton Creek occurs in an area that was tidal marsh into the late nineteenth century. The rail corridor was obviously elevated and carried across the creek on a low bridge. The land north and south of the creek is currently covered with fill. The APE has been expanded at this location to cover bridge construction and staging. No archaeological deposits are indicated at this location, and no additional survey activities are recommended.

Gloucester Station area (Figure 1, Map Sheet 3): Extensive modern development is indicated at the location of the historic station; the station building has been adapted as a restaurant. The proposed development of the station would occur slightly north of Monmouth Street, while the historic location lay south of Monmouth Street. Since the proposed station would consist of a platform between the two light rail tracks (currently to be placed east of the existing freight line), no impact to surviving archaeological deposits is anticipated, as the rail corridor has remained in service since its creation in the second quarter of the nineteenth century. The continual use of the rail line has most likely eradicated evidence of railroad track features such as switches and signal towers that were documented on the 1916 ICC maps, just as those early-twentieth-century features had eliminated earlier ones. Proposed roadway improvements along S. Railroad Avenue between approximately Monmouth Street and Somerset Street will provide an alleyway between Paul Street and Chambers Street, as well as maintain the flow of traffic through Gloucester City. The APE was expanded in this area (Figure 1, Map Sheet 3). The work will occur within the public works right-of-way. Additional roadway and intersection improvements are proposed at the S.R. 0130 Intersection.

Gloucester to Little Timber Creek (Figure 1, Map Sheet 4): As was the case with Newton Creek, the land on both sides of Little Timber Creek was low-lying tidal marsh that is currently covered by fill. Expansion of the APE to include an area for the removal of an old pier, bridge construction, and staging is proposed at the Little Timber Creek crossing. The archaeological potential in such areas is considered to be low to non-existent, and no further survey is recommended.

2.4 Brooklawn to Big Timber Creek and Westville

Brooklawn to Big Timber Creek (Figure 1, Map Sheet 4): Much of the land on the north side of Big Timber Creek, particularly to the west between the railroad and the Delaware River, is low-lying tidal marsh. The rail line crossed the creek onto higher ground on the south side at Westville. The southeast corner was indicated as low-lying on the 1848 United States for the Coast and Geodetic Survey (USC&GS) map; it is currently covered with fill and occupied by an apparent salvage/storage yard and restaurant. The southwest corner was higher ground but was occupied in the early twentieth century by a railroad power house. The APE has been expanded at this location for bridge construction and staging. No archaeological potential is considered to exist in the current or former low-lying marshes. Despite the expansion of the APE, no impact to the site of the power house is anticipated at this section of the corridor.

Westville Station area (new Crown Point Road Station; Figure 1, Map Sheet 4): The historic station at Westville was located south of the junction of Crown Point Road with the rail line. The new station would be constructed further south of Crown Point Road in a highly urbanized area. The proposed location is south of the historic site of the Westville Flint Glass Works, but the development impact in such an urbanized zone is likely to be minimal.

PTA 4 lies on the east side of the proposed corridor at the Crown Point Road Station. The area measures roughly 460 by 310 feet and extends from the corridor east to Broadway Street. Project plans propose a parking area development associated with the station. Much of the eastern and southern portions of the area are covered with asphalt, and an automobile service station stands on the property. Additional evaluation will be undertaken and Phase IB investigations are recommended if the location possesses sufficient integrity to contain archaeological resources of interest.

2.5 Woodbury and Woodbury Heights

Former North Woodbury Station (abandoned; Figure 1, Map Sheet 6): The former North Woodbury Station was located between Broadway Street on the west side and Edith Street (modern Station Drive) on the east-side of the tracks. The area is currently covered with modern development and no additional impacts from the project are anticipated, as this location would not be utilized for a modern station; therefore, no further survey or study is required (Figure 1, Map Sheet 6; note that Map Sheet 5 is not used in this analysis).

Red Bank Avenue Station in Woodbury (Figure 1, Map Sheet 6): A new station is proposed south of Red Bank Avenue and north of the former position of Woodbury Creek, currently impounded in lakes. The station would be located between an existing strip mall (east) and commercial pharmacy building and electrical transformer (west). Although the location is currently extensively developed, the landform indicated on the 1891 United States Geological Survey (USGS) map would have been an elevated south-facing point of land above wetlands on the north side of Woodbury Creek. Such a location would be considered highly favorable for precontact occupation. The proposed station developments along the tracks are minimal, consisting primarily of a platform between the tracks and some landscaping with a slight widening of the LOD to the east. No further investigations are recommended. Roadway widening and a sidewalk are proposed along Red Bank Avenue; however, this does not change the recommendation of additional work, as the impacts will fall within heavily developed portions of the APE (Figure 1, Map Sheet 6).

Woodbury Station area (Figure 1, Map Sheet 6): The historic rail station in Woodbury was located south of Cooper Street; the station building remains standing and is currently utilized as a restaurant. The proposed station would be located immediately to the south of the station building but within the confines of the historic station area. The proposed station, consisting of a platform between the light rail tracks adjacent to the freight line and sidewalks, would straddle Center Street. The location in 1916 was occupied by six tracks: three through tracks and three sidings on the west side (ICC Valuation 1916). No substantial impact to the station area is anticipated from the proposed development, and no additional survey or study is recommended.

Woodbury Heights Station (Figure 1, Map Sheet 7): A new station is proposed along West Jersey Avenue at Linden and Beech avenues in the Borough of Woodbury Heights. The location is comparatively undeveloped, but plans propose limited development, specifically a platform between the light rail tracks with some landscaping and limited parking along the west side. No additional study or survey is recommended at this location.

Woodbury Heights VMF (proposed; Figure 1, Map Sheet 7): A railroad VMF is under consideration along the tracks within the township. The area would include 18.2 acres, measuring between 1,400 and 1,750 feet in length north-south and roughly 525 feet in width. Much of the proposed area was impacted by the construction of a rectangular warehouse structure ca. 1960 that was recently demolished. The rail

corridor within the township crosses a flat upland above and west of a north-flowing tributary of Woodbury Creek. Although no archaeological sites have been previously recorded in the vicinity, the wooded northern portion (roughly one-quarter) of the proposed maintenance area would require Phase IB archaeological testing (**PTA 5**).

2.6 Wenonah and Mantua Boulevard

Monongahela Brook crossing north of Wenonah (Figure 1, Map Sheet 8): The rail line crosses an existing bridge or viaduct over Monongahela Brook. The location is relatively open at present. The specific impact of the project (i.e., whether the bridge would be replaced or expanded) is unknown. Since the brook appears to be impounded and enlarged, it is unlikely that any archaeological deposits would be accessible, and therefore no additional survey or study is recommended.

Wenonah Station area (Figure 1, Map Sheet 8): The historic station of Wenonah was located between Poplar and Mantua avenues; the station building remains standing and currently serves as the community center. The proposed redeveloped station would extend northward from the station building past East Poplar Street. Platforms would be constructed on the outside of the light rail tracks. The new station area would be landscaped and would utilize existing parking areas. The LOD will extend from the GCL alignment to the edge of East and West avenues on their respective sides of the tracks. This construction would have limited impact on archaeological resources, and no further investigations are recommended.

Mantua Creek crossings south of Wenonah (Figure 1, Map Sheet 9): The rail line crosses a branch of Mantua Creek and the main channel of the creek between Wenonah and Sewell. The 1891 USGS map indicates that both crossings occur within deeply incised valleys. A recorded precontact site, 28-Gl-150, is located on an upland flat between the two creeks east of the rail corridor. The rail line formerly crossed the main creek over a brick arch bridge that was probably constructed in the mid-nineteenth century when the railroad was extended south from Woodbury to Glassboro. However, this brick arch bridge was apparently replaced within the recent past. Current options for this project include the placement of a new bridge to either side of the current crossing. No decisions have been made regarding which side would be used. The current APE provides for either decision and includes space for construction, access, and staging. No additional study or survey is recommended at this location.

Mantua Boulevard Station area (Figure 1, Map Sheet 9): A new station is proposed along the west-side of the rail line immediately north of the junction with Mantua Boulevard. The proposed area is located in an agricultural field currently planted in soybeans behind a modern commercial building. The proposed station includes a parking lot for approximately 250 cars between the commercial building and the rail line. The triangular parking lot measures roughly 510 by 550 by 750 feet.

A recorded precontact site, 28-Gl-150, was located on a similar landform on the opposite side of Mantua Creek, and an isolated precontact artifact was recorded in the early twentieth century to the north. Geomorphological investigations conducted by Dan Wagner revealed an Ap-horizon plowzone over a sandy E-horizon and underlying sandy Bt-horizon subsoil. The 1962 soils manual for Gloucester County mapped the portion of the field near the road and railroad as a former sand and gravel pit (United States Department of Agriculture [USDA] 1962). The archaeological potential would appear to be confined to the Ap-horizon. Phase IB survey testing is recommended at the proposed parking lot (**PTA 6**).

2.7 Sewell to Pitman

Sewell Station area (Figure 1, Map Sheet 9): The historic location of Sewell Station extends from Sussex Avenue past Essex Avenue to Center Street. The station building still stands near the tracks at the northwest corner of Center Street. The proposed new station platforms would extend along the light rail tracks from Sussex to Essex avenues, with landscaping from Center Street to north of Sussex Avenue. The proposed development would apparently result in limited disturbance to most potential railroad features.

However, **PTA 7** is located on the east-side of the tracks at the site of a "Freight Ho." on the 1916 ICC Valuation map of Sewell Station. Numerous stations remain standing along the GCL corridor, but no surviving freight houses have yet been identified. A limited Phase IB survey investigation is recommended to determine if the outline of the freight house may still survive and be recorded. Geophysical investigations may be useful in defining the foundation, but such a structure may have left a limited architectural outline in the ground.

Mantua/Pitman Station along Tylers Mill Road (Figure 1, Map Sheet 10): A new station is proposed along the west-side of the tracks south of the crossing of Tylers Mill Road. The station would include platforms adjacent to the tracks and a parking lot for approximately 450 cars measuring roughly 490 by 600 feet

extending west along the road. An early-twentieth-century house was demolished by the owner in the late summer or early fall of 2013, and a new metal barn was constructed on the location. The demolition and subsequent construction activities have impacted any potential archaeological resources on the site. The 1916 ICC map of the location indicated that the railroad was placed within a cut ravine that is still visible today. Some of the earth displaced by this cut may have been placed along Tylers Mill Road since a geomorphological boring exposed evidence of extensive fill deposition. By contrast, the land along the tracks to the south was comparatively wet and low lying. The APE has been expanded at this location for roadway widening on Tylers Mill Road, east and west of the GCL alignment. The location does not appear to be one that possesses any archaeological potential, if indeed it ever had any, and no additional investigations are proposed.

Pitman Station area (Figure 1, Map Sheet 11): The historic station of Pitman or Pitman Grove was located on the west-side of the tracks in the triangular area framed by Pitman Avenue to the north and Glassboro Pike, or modern South Broadway, to the west. The proposed new station would be built north of the historic location and north of Pitman Avenue between Commerce Avenue to the east and Simpson Avenue to the west. The platforms and landscaping proposed for the station would not impact archaeological resources, and no additional investigations are recommended.

2.8 Glassboro

Chestnut Branch tributary crossing at Heston Road in Glassboro (Figure 1, Map Sheet 12): The railroad crossed a tributary stream that flowed northwestward as shown on the 1890 USGS Glassboro map. The recorded precontact site, 28-Gl-406, is located on the north side of the tributary west of the tracks. The impact of the project at this location is unclear, but it is unlikely that archaeological potential exists due to the existing railroad and the improvements to Heston Road. It is possible that archaeological sites may be buried by railroad embankment construction, but such sites would be inaccessible at present. No additional investigations are proposed at this location.

Rowan University West Station between Heston and Mullica Hill roads (Figure 1, Map Sheet 12): A new station is proposed along the tracks immediately north of Mullica Hill Road (S.R. 0322). This location would utilize an existing parking lot to the east that is associated with Rowan University. The station would be built along an elevated portion of the tracks. The recorded precontact site, 28-Gl-317, is located north of the parking lot. Proposed roadway improvements have expanded the APE along Mullica

Hill Road/S.R. 0322 east and west of the GCL corridor near the proposed Rowan University West Station in Glassboro Borough (Figure 1, Map Sheet 12). Most of the planned improvements will occur in areas of obvious disturbance. However, a small area just north of the parking lot does not appear to be as heavily disturbed and will require a Phase IB survey (PTA 8).No additional survey or study is recommended at the remainder of this location.

Glassboro Station at former Railroad Avenue (abandoned; Figure 1, Map Sheet 13): The former and historic station is located south of the crossing of University Boulevard-Oakwood Avenue (former Railroad Avenue) and the railroad. The station was a dividing point for the branch line to Bridgeton and the spur line into the center of Glassboro along Railroad Avenue. The main branch of the West Jersey Railroad continued southward. The frame station survives on the east side, and tracks associated with the Bridgeton Branch and traces of other tracks are still visible on the surface. Figure 11 presents an overlay of the 1916 ICC map of the Railroad Avenue Station on a modern aerial photograph.

Much of the location remains open wooded ground. The location is bounded by Ellis Street to the south and Girard Road to the west. This location is an important one for understanding and interpreting aspects of railroad development from the late nineteenth and early twentieth centuries in southern New Jersey. Since the location is currently open, it may be considered as an equipment staging area or storage yard during the GCL or other projects. Such usage should be avoided, and it was argued in the Phase IA survey report that the site should be preserved.

Subsequent to the preparation and submittal of the Phase IA report, a VMF was proposed along Sewell Street southwest of the former station. A spur track extends from the GCL line through the southern end of the former railroad station area as shown on Figure 1, Map Sheet 13, and in greater detail on Figure 11. The spur track appears to pass through the site of the power house as shown on the 1916 ICC map. Again, it is recommended that this location be avoided. The spur track should be realigned to the south to avoid the site of the power house.

PTA 9 would occupy a triangular lot between Ellis Street and Girard Road. The APE was expanded in the vicinity of the proposed VMF Site 4A and connecting track (see Figure 1, Map Sheet 13; Figure 11). The nature of Phase IB testing will be determined but would most likely include a mixture of shovel tests and larger units to identify possible rail grades not indicated on the 1916 ICC map. Since the location was a

former rail yard, the potential of hazardous materials contamination is present. Data from an assessment of the presence of such hazardous materials must be provided prior to any final decision as to whether such Phase IB investigations will be undertaken.

Proposed Sewell Street VMF (Figure 1, Map Sheet 13): An area southwest of Sewell Street is under consideration as a VMF. The location measures roughly 1,850 by 920 feet and is mostly covered by a historic glass manufactory building dating from around 1918. No Phase IB testing is proposed at the location due to the presence of the historic industrial building.

Proposed rail line into center of Glassboro (Figure 1, Map Sheet 13): An extension of GCL service into the center of Glassboro is under consideration. This extension would lie within a former rail corridor that was in existence by the early 1890s and is shown on the 1916 ICC Valuation maps. An earlier map of Glassboro (Everts and Stewart 1876) reveals that the northern portion of the spur line was not in existence in 1876, but it does indicate the presence of numerous houses along Main Street to the west and Academy Street to the east (Figure 12). The proposed line would follow the spur line rail corridor from the main GCL tracks to the west and would extend northward to a point roughly adjacent to the junction of Wilmer and Main streets. In addition, a new station to serve downtown Glassboro is proposed at the end of this extension line between Main and Academy streets.

PTA 10 is located at the northern end of the proposed rail line into Glassboro at the point where the corridor forms a T-shaped connection with Main Street to the west and Academy Street to the east. The connection is irregular in shape but measures roughly 60 to 80 feet wide (north-south) and 620 feet in length (east-west). Since this T-shaped connection has the potential to impact archaeological deposits in the yards of the nineteenth-century houses in addition to railroad-related features, Phase IB archaeological survey or an alternative mitigation study may be required.

Proposed off-alignment construction activities include intersection widening for traffic mitigation at Cooper Street and Evergreen Avenue in Woodbury (Figure 1, Map Sheet 6) and a reconfigured intersection for traffic mitigation at Tylers Mill Road and Main Street in Mantua (Figure 1, Map Sheet 10). Considering the modern development surrounding both locations, no Phase IB archeological studies are recommended.

2.9 Summary

The various portions of the project area discussed above may be placed in the following categories for ease of reference:

1. No further work required

- Camden north of WRTC;
- Camden Ferry Avenue south to Newton Creek (except for possible PTA 3);
- Newton Creek into Gloucester;
- Gloucester Station area;
- Gloucester to Little Timber Creek;
- Former North Woodbury Station (abandoned);
- Brooklawn to Big Timber Creek and Westville;
- Red Bank Avenue Station in Woodbury;
- Woodbury Station area;
- Woodbury Heights Station;
- Monongahela Brook crossing north of Wenonah;
- Wenonah Station area;
- Mantua Creek crossings south of Wenonah;
- Mantua/Pitman Station along Tylers Mill Road;
- Pitman Station area;
- Chestnut Branch tributary crossing at Heston Road in Glassboro;
- Rowan University West Station between Heston and Mullica Hill roads;
- Sewell Street VMF;
- Off-Alignment at Cooper Street and Evergreen Avenue; and
- Off-Alignment at Tylers Mill Road and Main Street.

2. Phase IB survey possibly required

- PTA 1N: Camden block between Carman Street and former Bridge Avenue;
- PTA 2N: South Camden adjacent to Van Hook Street and 6th Street interchange (pending assessment of site disturbance and radiological hazard);

- PTA 2S: South Camden Station parking lot 6th Street and Ferry Avenue (if retained in planning and pending assessment of radiological hazard);
- PTA 3: South Camden adjacent to Morgan Street interchange (pending assessment of site disturbance and radiological hazard);
- PTA 4: Crown Point Road Station parking lot between rail corridor and Broadway Street(if retained in planning and pending assessment of extent of disturbance);
- PTA 5: Woodbury Heights VMF at wooded northern end;
- PTA 6: Mantua Boulevard Station area parking lot;
- PTA 7: Sewell Station area at site of former freight house;
- PTA 8: Intersection of Bowe Boulevard and S.R. 0322;
- PTA 9: Former Railroad Avenue Station, spur track to VMF site (recommended that track be eliminated or moved south of former power station site); and
- PTA 10: Northern end of proposed rail extension into Glassboro (or alternative mitigation, see below).

3. Alternative mitigation study under Memorandum of Agreement

- Camden, Wright Street south to Kaighns Avenue; and
- PTA 9: Proposed rail line into center of Glassboro.

4. Avoid area and prevent development or use during project

- Former Railroad Avenue Station in Glassboro (abandoned) and Sewell Street VMF.

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Appendix A

Report Figures

PTA 1

Cooper Hospital Station

Walter Rand Transportation Center

CAMDEN COUNTY

Camden

500 250 0 Feet

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 1 of 13

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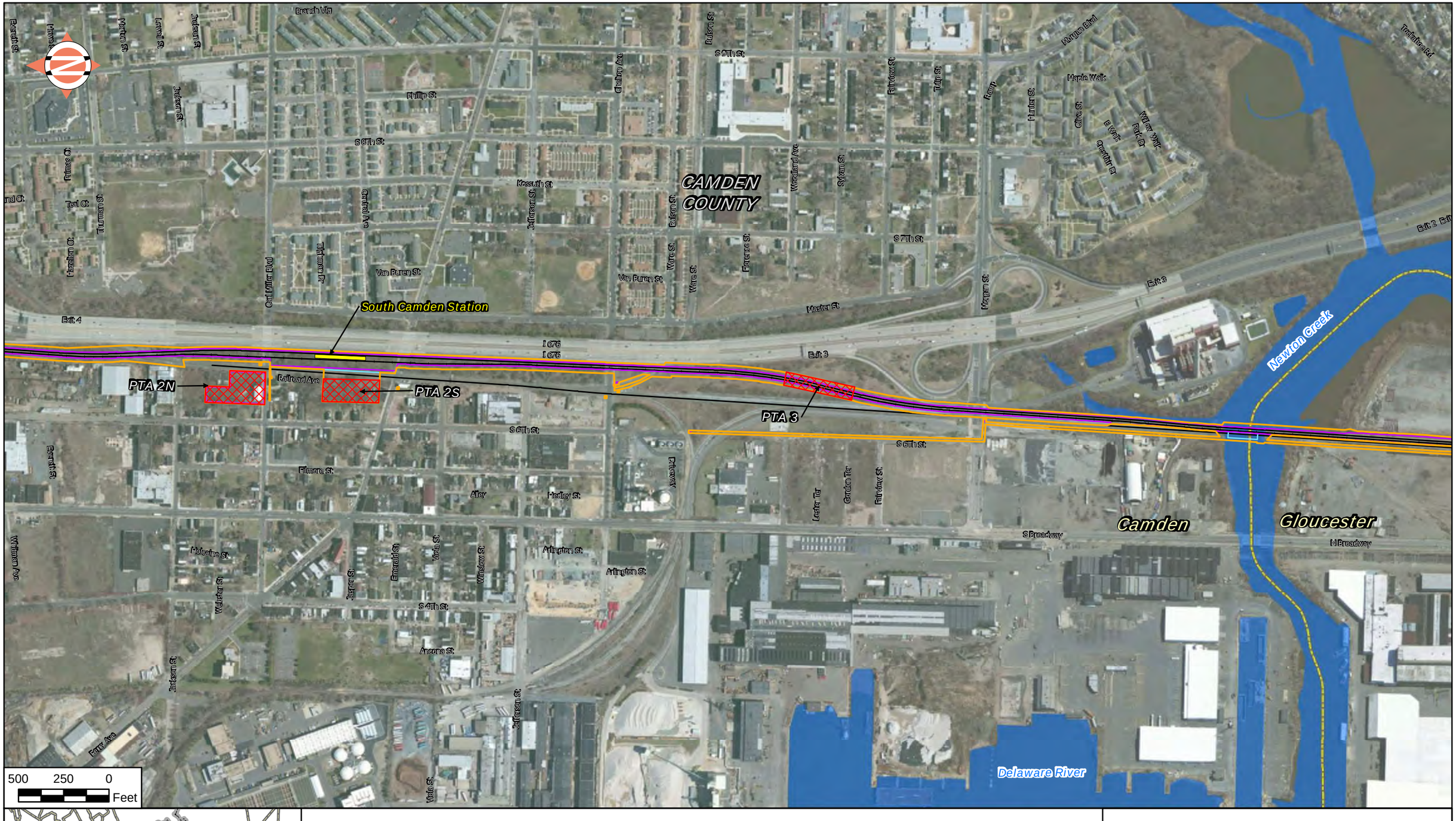

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 2 of 13

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Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 3 of 13

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Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 4 of 13

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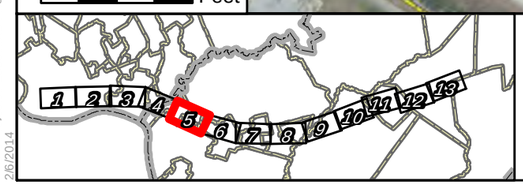

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 5 of 13

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Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 6 of 13

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Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 7 of 13

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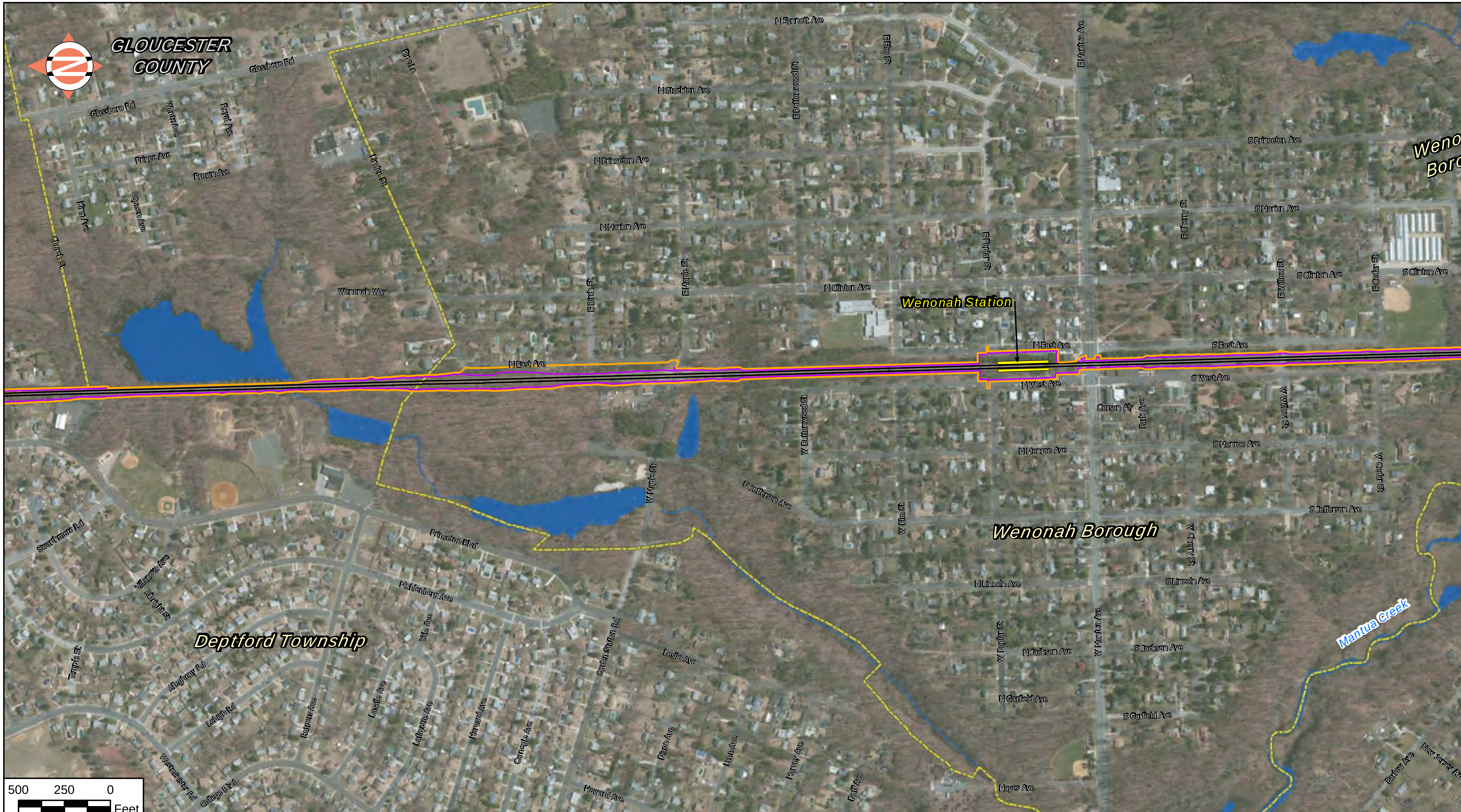

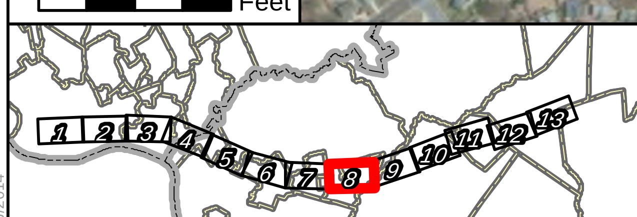

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 8 of 13

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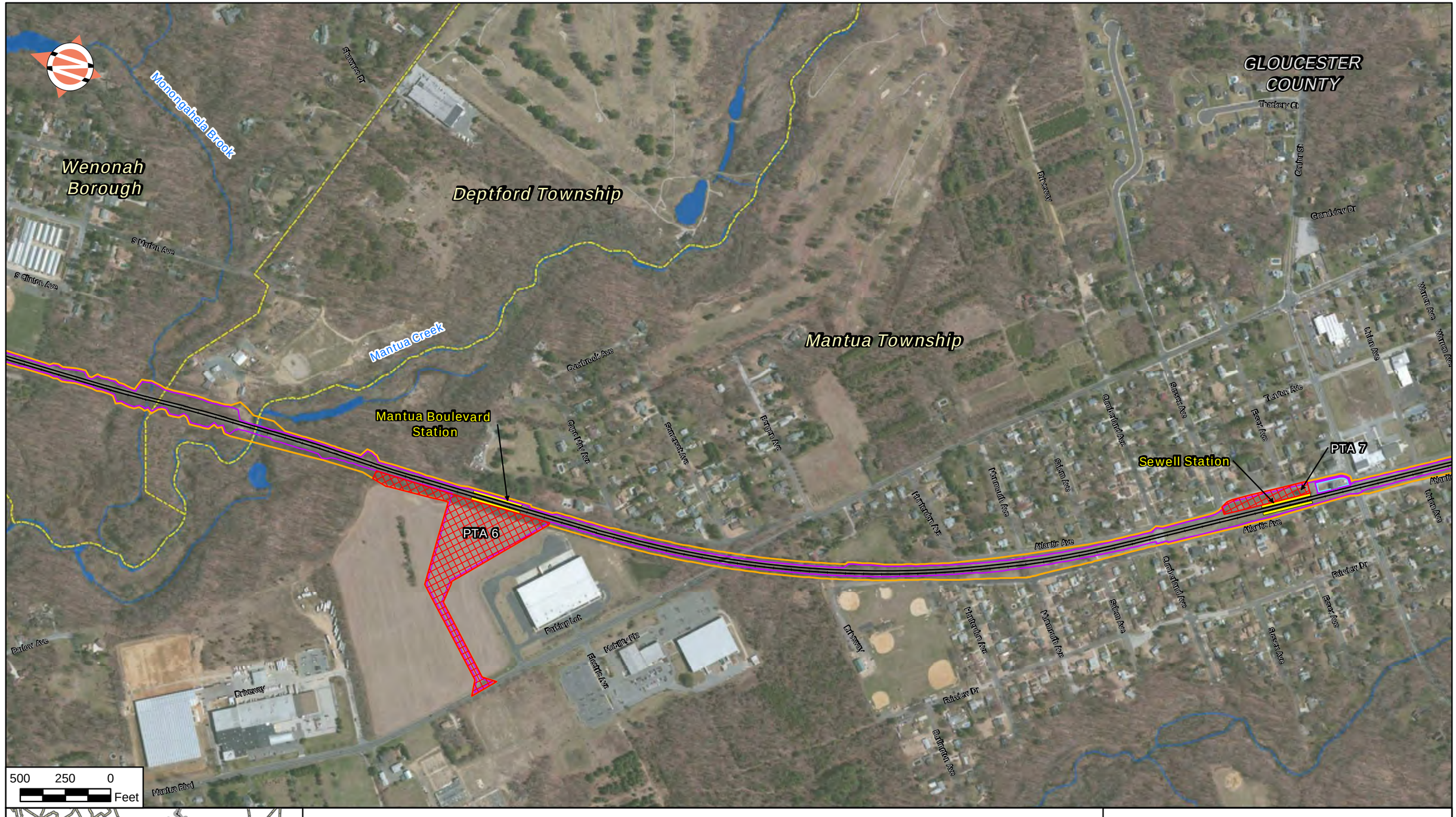

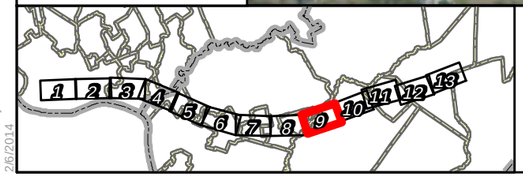

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 9 of 13

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Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 10 of 13

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 11 of 13

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Pitman Borough

Glassboro Borough

PTA 8

Rowan University
West Station

500 250 0
Feet

Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 12 of 13

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Area of Potential Effects (APE)
Potential Test Areas
Limit of Disturbance
Temporary Limit of Disturbance
GCL Facilities
Potential VMF Site Locations

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

Figure 1
Area of Potential Effects (APE)
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey
Sheet 13 of 13

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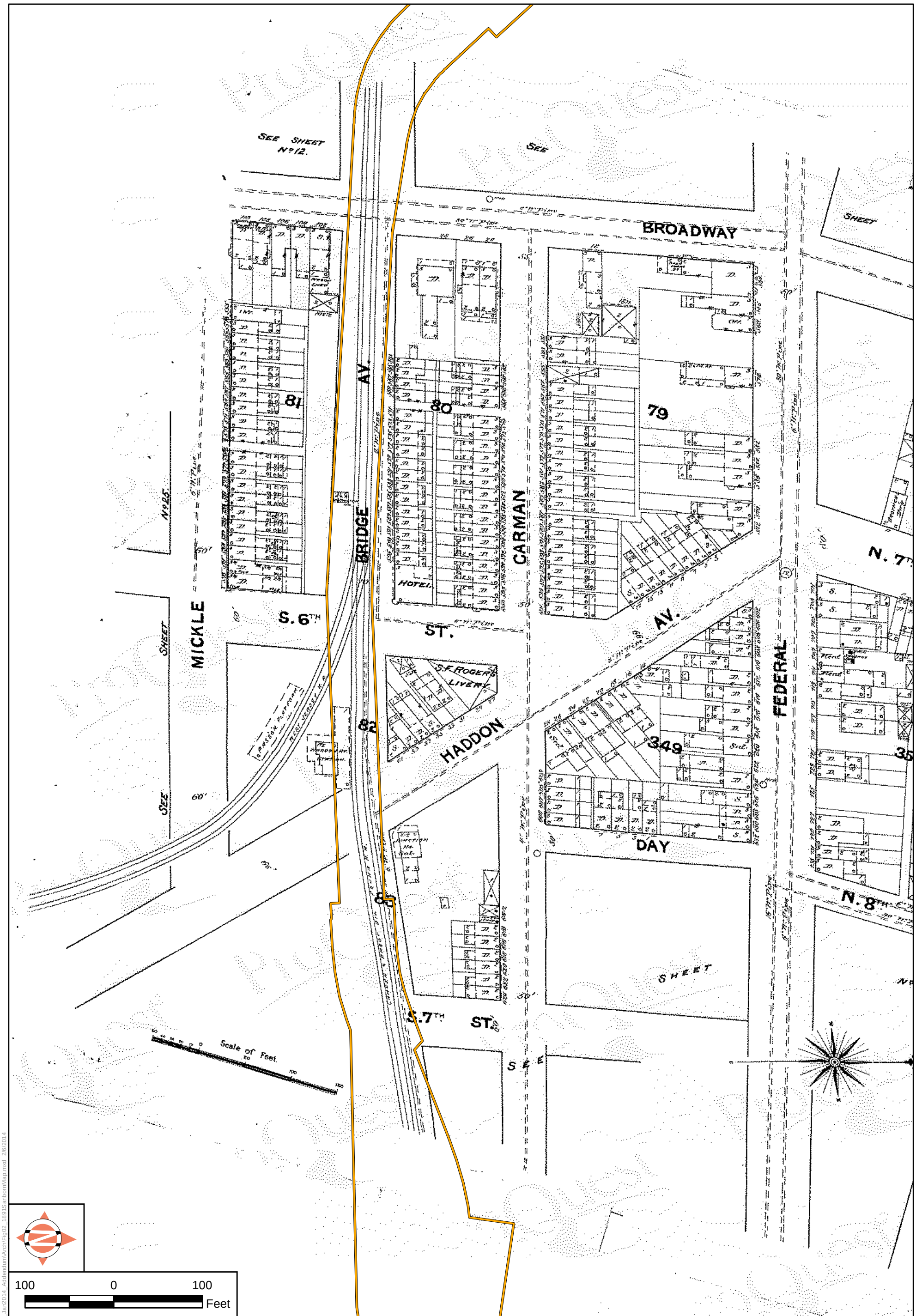

Figure 2
1891 Sanborn Map,
Broadway to South 7th Street, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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PTA 1

DAY

S. 7TH ST.

S. 10TH ST.

AV.

BRIDGE

CARMAN

FEDERAL

PENN.

R. R.

DEPOT

127

132

SEE SHEET No 22

Scale of Feet

100 0 100 Feet

Burlington
Camden
Gloucester
Salem

Potential Test Areas
Area of Potential Effects

Figure 3
1891 Sanborn Map,
Carman Street to Bridge Avenue, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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WRIGHT

WINDSOR

CAMDEN AND SUBURBAN RAILWAY CO.

CAR BARNS & SHOPS

CAR HOUSE

CARTERET

WASHINGTON

HADDON AV.

TRENTON AV.

NEWTON AV.

SCHOOL LANE

BLAINE ST.

SEWARD ST.

NEW ST.

MANUAL TRAINING AND HIGH SCHOOL

Scale of Feet

100 0 100 Feet

Burlington
Camden
Gloucester
Salem

Area of Potential Effects

Figure 4
1906 Sanborn Map,
Wright Street to Newton Avenue, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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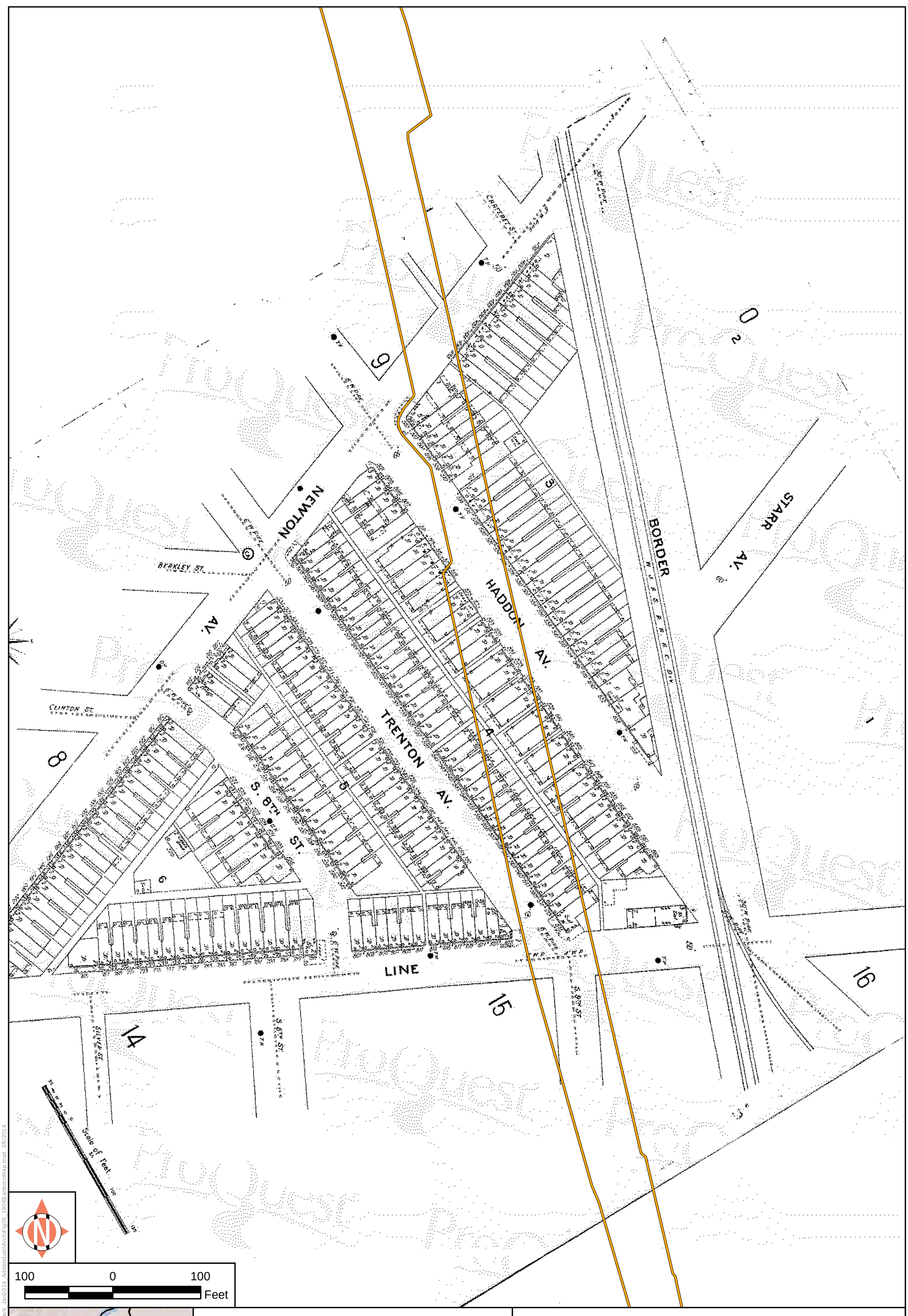

Figure 5
1906 Sanborn Map,
Newton Avenue to Line Street, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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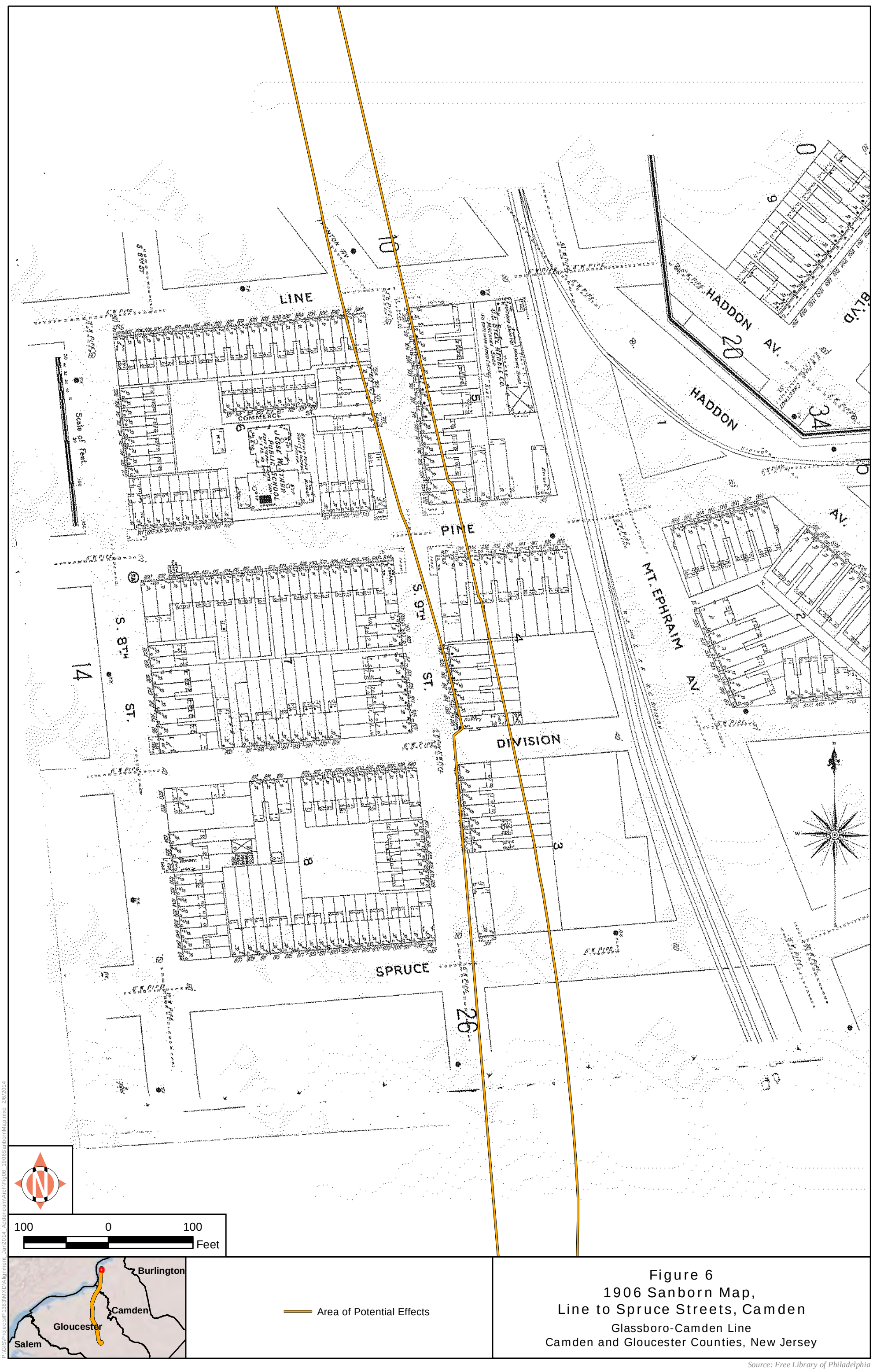

Figure 6
1906 Sanborn Map,
Line to Spruce Streets, Camden

Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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SPRUCE

CHERRY

WALNUT

MT. VERNON

CHESTNUT

MT. EPHRAIM AV.

S. 8TH ST.

S. 9TH ST.

S. 10TH ST.

ALDER ST.

EIGHTH ST. M.E. CHURCH

Scale of Feet

100 0 100 Feet

Burlington
Camden
Gloucester
Salem

Area of Potential Effects

Figure 7
1906 Sanborn Map, Spruce to Chestnut Streets, Camden

Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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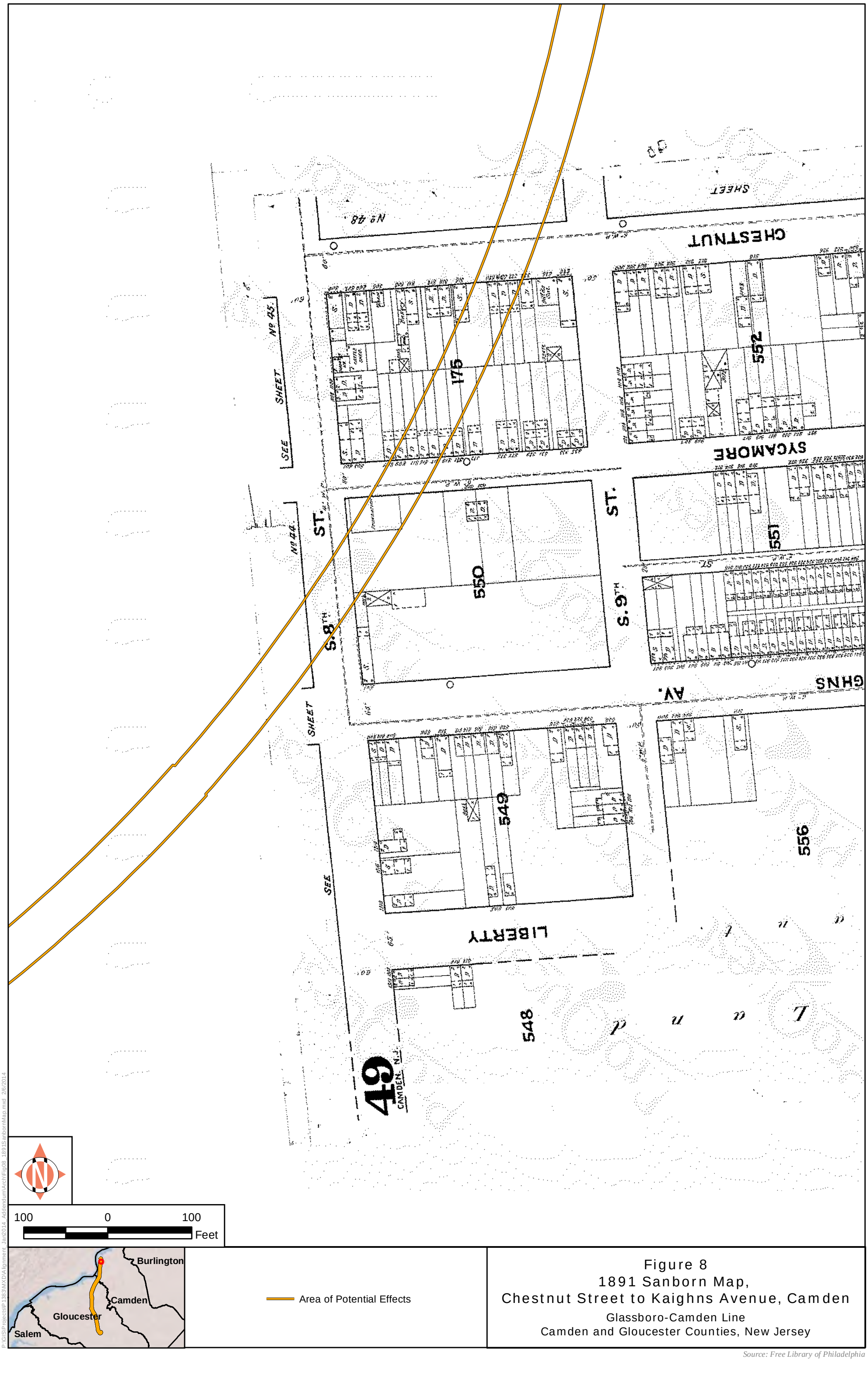

Figure 8
1891 Sanborn Map,
Chestnut Street to Kaighns Avenue, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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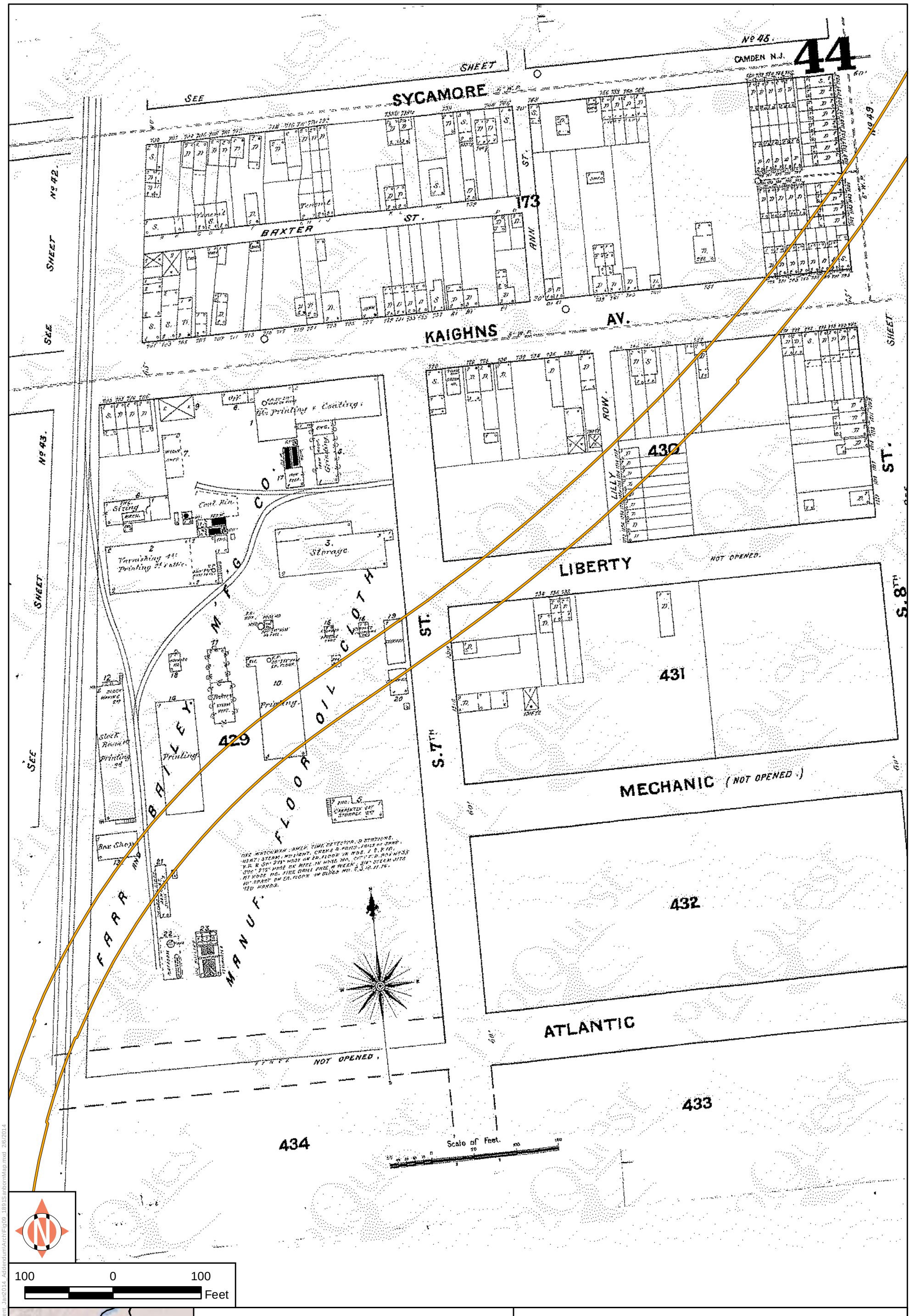

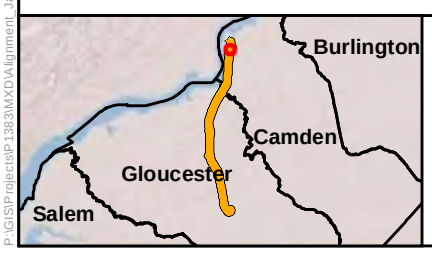

Area of Potential Effects

Figure 9
1891 Sanborn Map,
Kaighns Avenue to Atlantic Street, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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PTA 2N

PTA 2S

JACKSON

VAN HOOK

FERRY AV.

BROADWAY

FILLMORE ST.

S. 6TH ST.

AV. AV.

RAILROAD

479

480

481

482

483

484

485

486

58

CAMDEN N.J.

STOCKTON BAPTIST CHURCH.

Jno. W. MICKLE PUBLIC SCHOOL

STOCKTON M.E. CHURCH.

DYE HO.

COTTRELL & WOLFENDEN HOSIERY MANFY.

Hat House

SEE SHEET No 62.

SEE SHEET No 57.

SEE SHEET No 59.

Scale of Feet.

100 0 100 Feet

Burlington

Camden

Gloucester

Salem

Area of Potential Effects

Potential Test Areas

Figure 10
1891 Sanborn Map, Jackson Street to Ferry Avenue, Camden
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Free Library of Philadelphia

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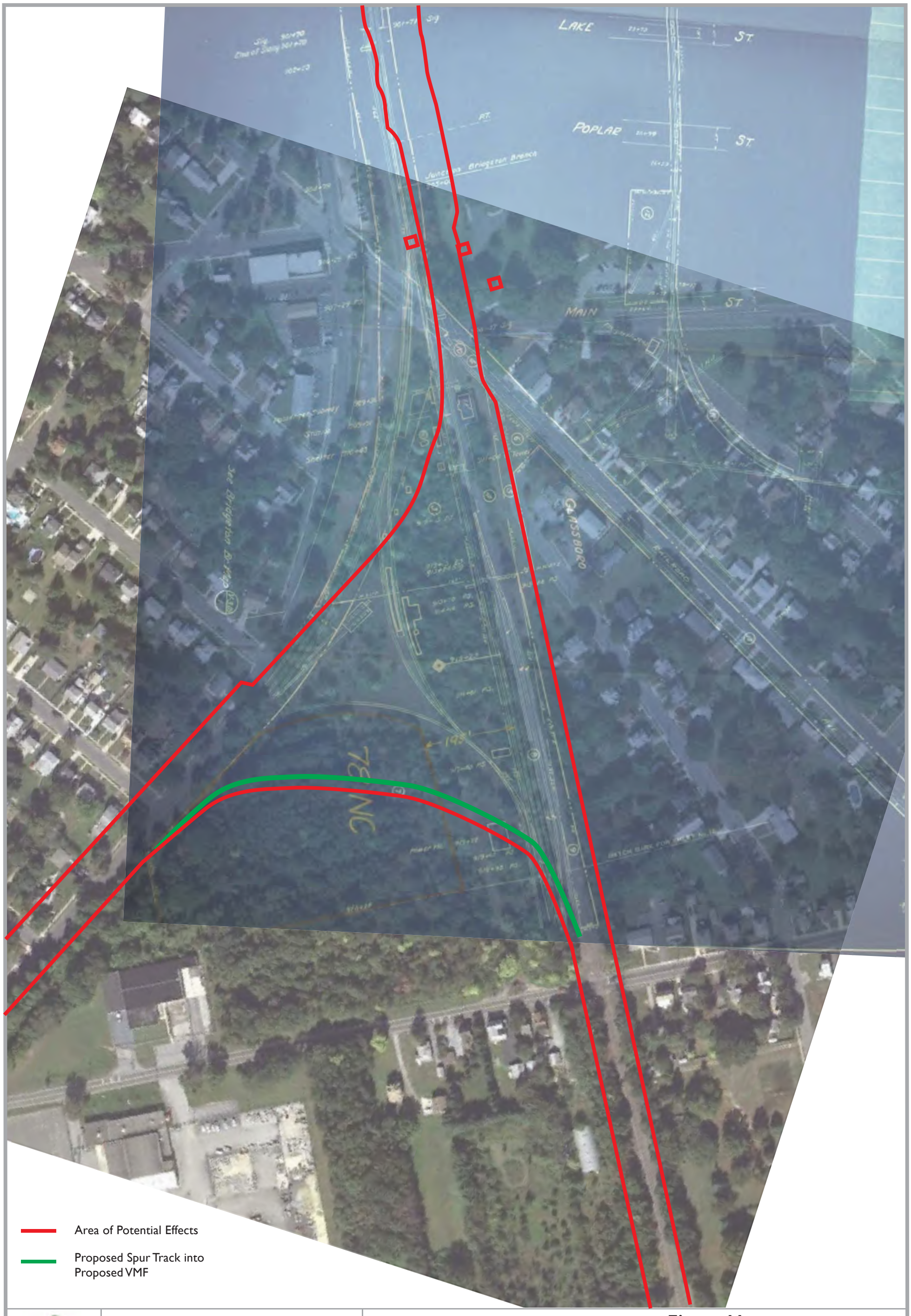

Figure 11
Overlay of 1916 ICC Map and Modern Aerial of Former Railroad Avenue Station
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Aerial Courtesy Google Earth, 2011 (accessed Dec2013); ICC Valuation Maps V2.3-15, 1916

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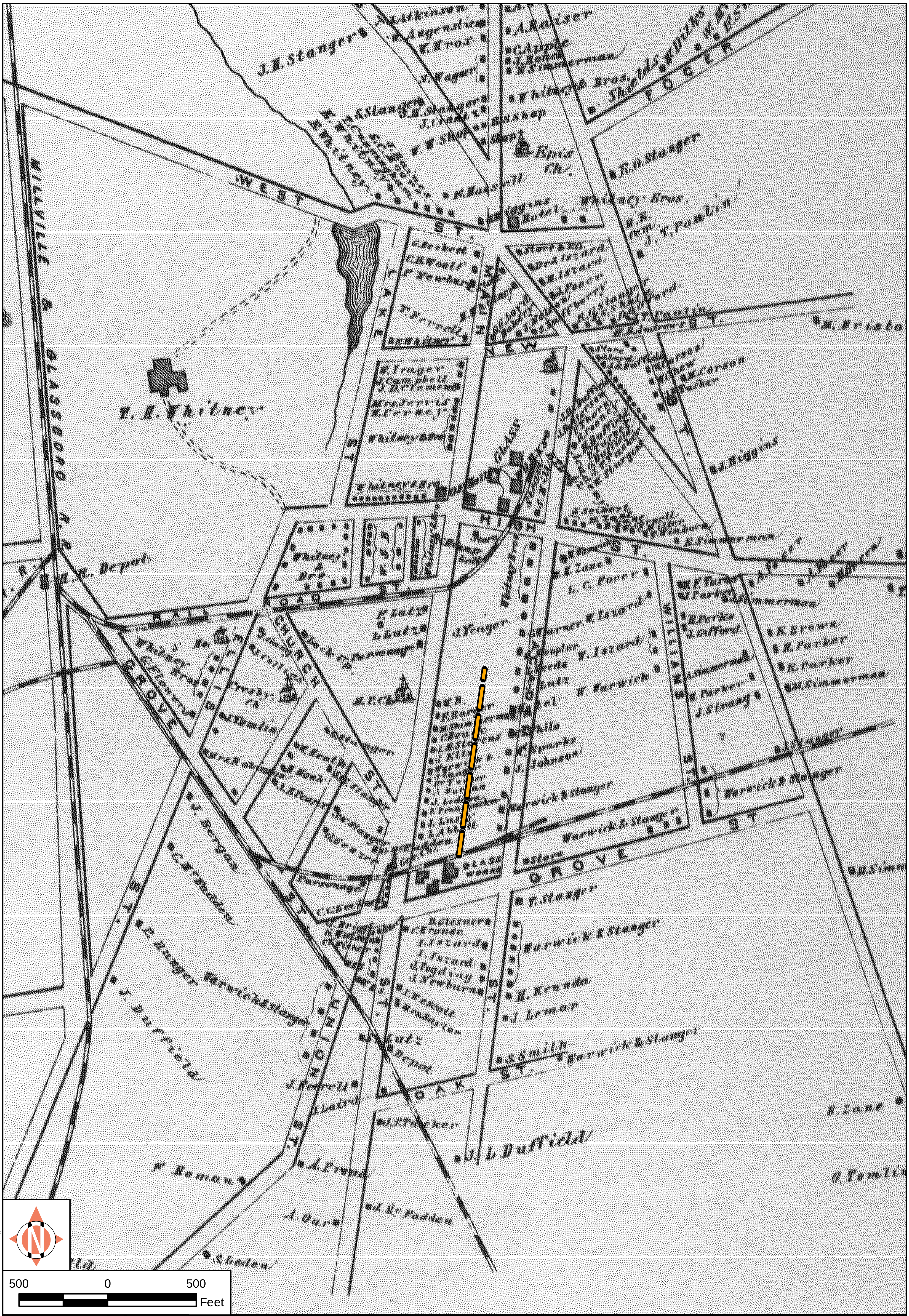

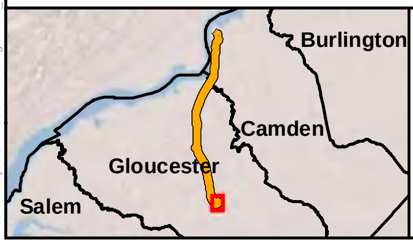

Proposed Extension into Glassboro - Approximate

Figure 12
1876 Everts and Stewart Map of Glassboro
Glassboro-Camden Line
Camden and Gloucester Counties, New Jersey

Source: Combination Atlas of Salem & Glouchester Counties, New Jersey

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Appendix B

Letter from Daniel Saunders, New Jersey State Historic Preservation Office, to Letitia Thompson, United States Department of Transportation, December 3, 2013

Project #: 10-1360-2
HPO-L2013-039

State of New Jersey

MAIL CODE 501-04B
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES
HISTORIC PRESERVATION OFFICE
P.O. Box 420
Trenton, NJ 08625-0420
TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

December 3, 2013

Letitia A. Thompson
United States Department of Transportation
Federal Transit Administration
1716 Market Street, Suite 500
Philadelphia, Pennsylvania 19103

Dear Ms. Thompson:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the *Federal Register* on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing Consultation Comments for the following proposed undertaking:

Gloucester & Camden Counties, New Jersey
Glassboro-Camden Line
Phase IA Archaeological Survey
United States Department of Transportation
Federal Transit Administration

Thank you for providing the Historic Preservation Office (HPO) with the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological properties. The following comments are in reply to your request for Consultation Comments on the above-referenced project based upon the following archaeological report:

Blades, Brooke and Frank Dunsmore
November 15, 2013 *Phase IA Archaeological Survey Report, Glassboro-Camden Line, Camden and Gloucester Counties, New Jersey.* Prepared by A.D Marble & Company, Conshohocken, PA. Prepared for STV, Inc., Philadelphia, PA.

800.4 Identifying Historic Properties

The above-referenced project includes the construction of a proposed light commuter rail line in Gloucester and Camden counties in southern New Jersey, primarily along an existing Conrail right-of-way. The project site consists of an 18 miles stretch from Glassboro Borough

northward to Camden City, passing through the communities of Glassboro Borough, Pitman Borough, Mantua Township, Deptford Township, Wenonah Borough, Woodbury Heights Borough, Woodbury City, Westville Borough, Brooklawn Borough, Gloucester City, and Camden City. The Phase IA report includes valuable information to understand the previous historic and Native American land use within the project's area of potential effect (APE). The HPO agrees with the background research and the general sensitivity outlined in the report. However, due to the preliminary nature of project plans, it is not possible to fully assess the potential to encounter archaeological resources throughout the APE. *Therefore, the HPO cannot concur with the need or lack of need for additional archaeological survey within portions of the APE at this time based on the lack of detailed project plans. Once plans for the construction of the light rail are fully developed, the HPO will be better able to provide guidance on the need for any further survey.*

Additionally, the historic Woodbury and Camden Railroad/West Jersey Railroad itself, as well as the numerous historic districts and properties the line will pass through, will need to be assessed for above ground impacts to historic properties. If avoidance of direct or indirect effects on above-ground structures is not possible, intensive level architectural survey to evaluate eligibility of the structures for listing on the National Register of Historic Places and/or assessment of effects may be necessary.

Additional Comments

Thank you again for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological properties. The HPO looks forward to continued consultation on the potential for the above referenced undertaking to affect historic properties as more detailed plans are developed. Please reference HPO project number 10-1360, in any future calls, emails, submissions, or written correspondence to help expedite your review and response. If you have any questions, please do not hesitate to contact Vincent Maresca of my staff at (609-633-2395) with questions regarding archaeology or Caroline Charlese Scott (609-633-2396) with questions regarding historic architecture, historic districts, or historic landscapes.

Sincerely,

Daniel D. Saunders
Deputy State Historic
Preservation Officer

Cc: Keith Lynch, FTA
Nicole Minnichbach, US ACOE
Xavier Riva, A.D. Marble & Company
Brooke Blades, A.D. Marble & Company

DD/VM/DK

Phase IA Archaeological Addendum Report

Glassboro-Camden Line Light Rail Project

Camden and Gloucester Counties, New Jersey

Prepared for:

STV, Inc.
1818 Market Street, Suite 1410
Philadelphia, Pennsylvania 19103

Prepared by:

A.D. MARBLE
environmental·cultural·engineering

2200 Renaissance Boulevard, Suite 260
King of Prussia, Pennsylvania 19406

DRAFT

May 2018

PHASE IA ARCHAEOLOGICAL ADDENDUM REPORT

Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

Project # 10-1360

Prepared for:

STV, Inc.
1818 Market Street, Suite 1410
Philadelphia, Pennsylvania 19103

Prepared by:

A.D. Marble
2200 Renaissance Boulevard, Suite 260
King of Prussia, Pennsylvania 19406

May 2018

ABSTRACT

This report represents an addendum to the November 2013 and February 2014 Phase IA archaeological survey reports prepared by A.D. Marble for the proposed Glassboro-Camden Line (GCL) under consideration for construction in Camden and Gloucester counties, New Jersey. The purpose of the additional studies was to review previous investigations as well as project design changes from 2014, and address the 2014 New Jersey State Historic Preservation Office (NJ HPO) comments.

GCL would provide an 18-mile expansion of transit service between Camden and Glassboro. The proposed GCL project corridor generally follows the existing Conrail right-of-way from Glassboro northward to Camden, passing through the communities of Glassboro, Pitman, Sewell, Mantua Township, Deptford Township, Wenonah, Woodbury Heights, Woodbury, Westville, Brooklawn, Gloucester City, and Camden.

This addendum has been prepared in response to agency comments received from the NJ HPO in December 2013 and April 2014. NJ HPO requested additional planning information and more detailed project mapping before evaluating recommendations offered in the Phase IA survey report in the 2013 letter. The 2014 letter agreed that 12 locations within the Area of Potential Effects (APE) required no additional studies and that ten areas identified as archaeologically sensitive should undergo Phase IB investigation. In addition, they recommended ten locations that should be considered for Phase IB studies.

This addendum provides an opportunity to present proposed design changes and project conditions as of February 2018 and recommendations for Phase IB investigations throughout portions of the APE. Much of the project corridor will pass through areas with limited archaeological potential or would remain within the confines of the previously disturbed rail corridor. A.D. Marble has identified 14 locations where the potential for the presence of significant archaeological resources exists within the APE and require Phase IB survey. The 14 proposed locations include the potential testing areas recommended by A.D. Marble in the 2014 Phase IA report as well as the areas recommended in a 2014 NJ HPO letter. As a result, A.D. Marble recommends a variety of Phase IB methods that should include backhoe trenching, systematic survey, and monitoring during construction as a means to determine the presence or absence of potentially significant resources within the 14 areas identified during the current sensitivity survey.

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1.0 Introduction

1.0 INTRODUCTION

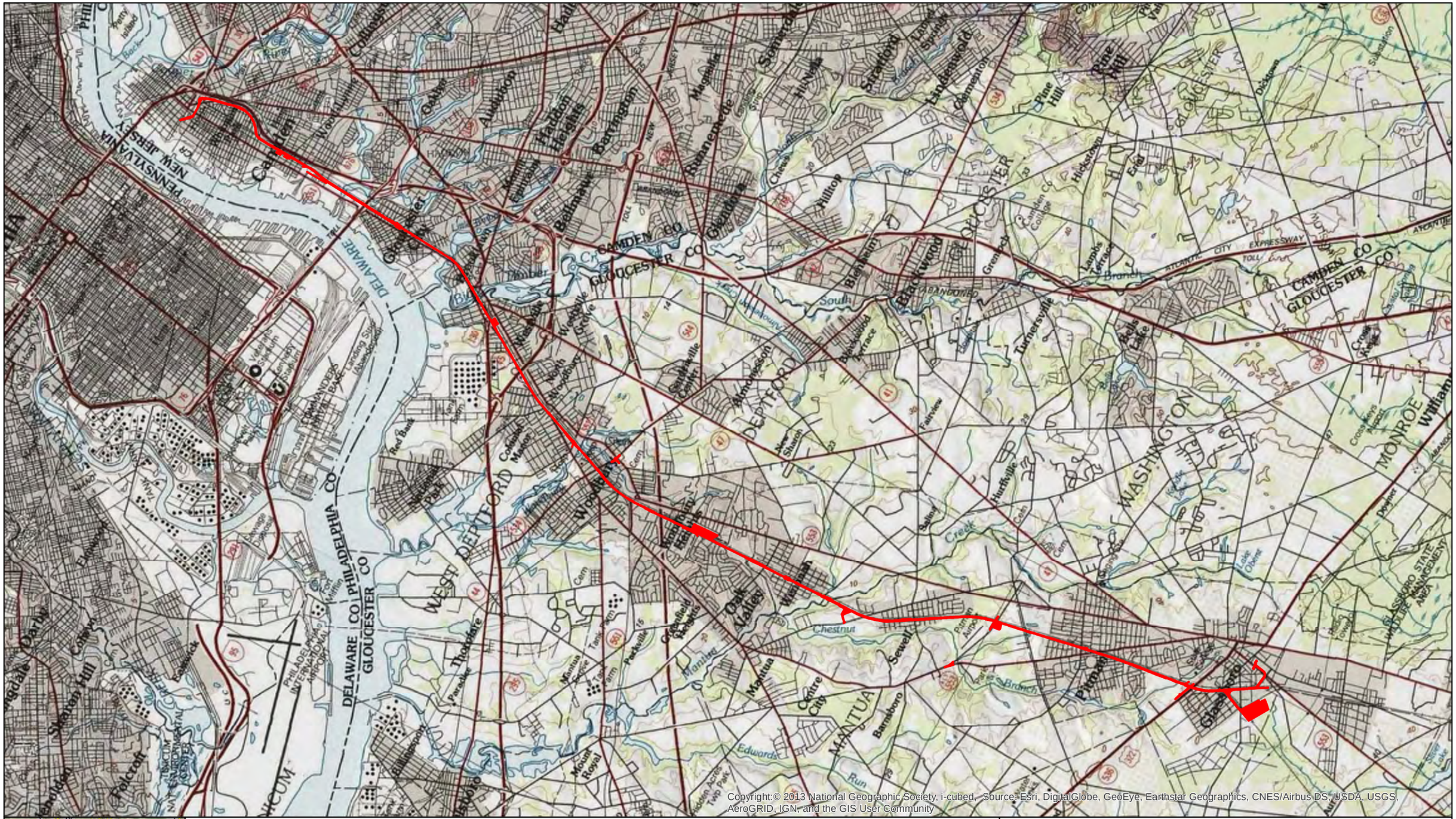
The following addendum report was prepared as a supplement to the 2014 Phase IA archaeological evaluation conducted by A.D. Marble of King of Prussia, Pennsylvania, for a proposed light commuter rail project in southern New Jersey that extends south from the City of Camden in Camden County to Glassboro in Gloucester County (Figure 1). The project is described as the Glassboro-Camden Line (GCL) Light Rail Project.

This Phase IA survey was performed in compliance with the Secretary of the Interior's Standards and Guidelines; Section 106 of The National Historic Preservation Act of 1966, as amended; the Procedures for the Protection of Historic and Cultural Properties set forth in 36 CFR 800, as amended; 23 CFR 771, as amended; guidance published by the Advisory Council on Historic Preservation (ACHP); and Sections 1(3) and 2(b) of Executive Order 11593. At the time of the additional study, the project no longer fell under the National Environmental Policy Act (NEPA) of 1966.

The purpose of the additional studies was to review previous investigations as well as project design changes from 2014, and address the 2014 New Jersey State Historic Preservation Office (NJ HPO) comments. The project team included Richard White, M.A., RPA, as the principal investigator; with assistance from Andrew Colucci. Mr. White was responsible for the completion of this addendum report, graphics were prepared by Amadeusz Zajac, and Xavier Riva is the A.D. Marble project manager.

1.1 Project Description

The GCL Light Rail Project is a proposed 18-mile expansion of transit service in southern New Jersey that would traverse 11 communities between Camden (Camden County) and Glassboro (Gloucester County): Camden, Gloucester City, Brooklawn, Westville, Woodbury, Woodbury Heights, Wenonah, Deptford Township, Mantua Township, Pitman, and Glassboro. The proposed project would provide 14 new transit stations, including ten walk-up stations and four park-and-ride facilities (Figures 2A to 2M).



Area of Potential Effects (APE)

Figure 1
Project Location Map
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

Map Source: 1877 JD Scott Map

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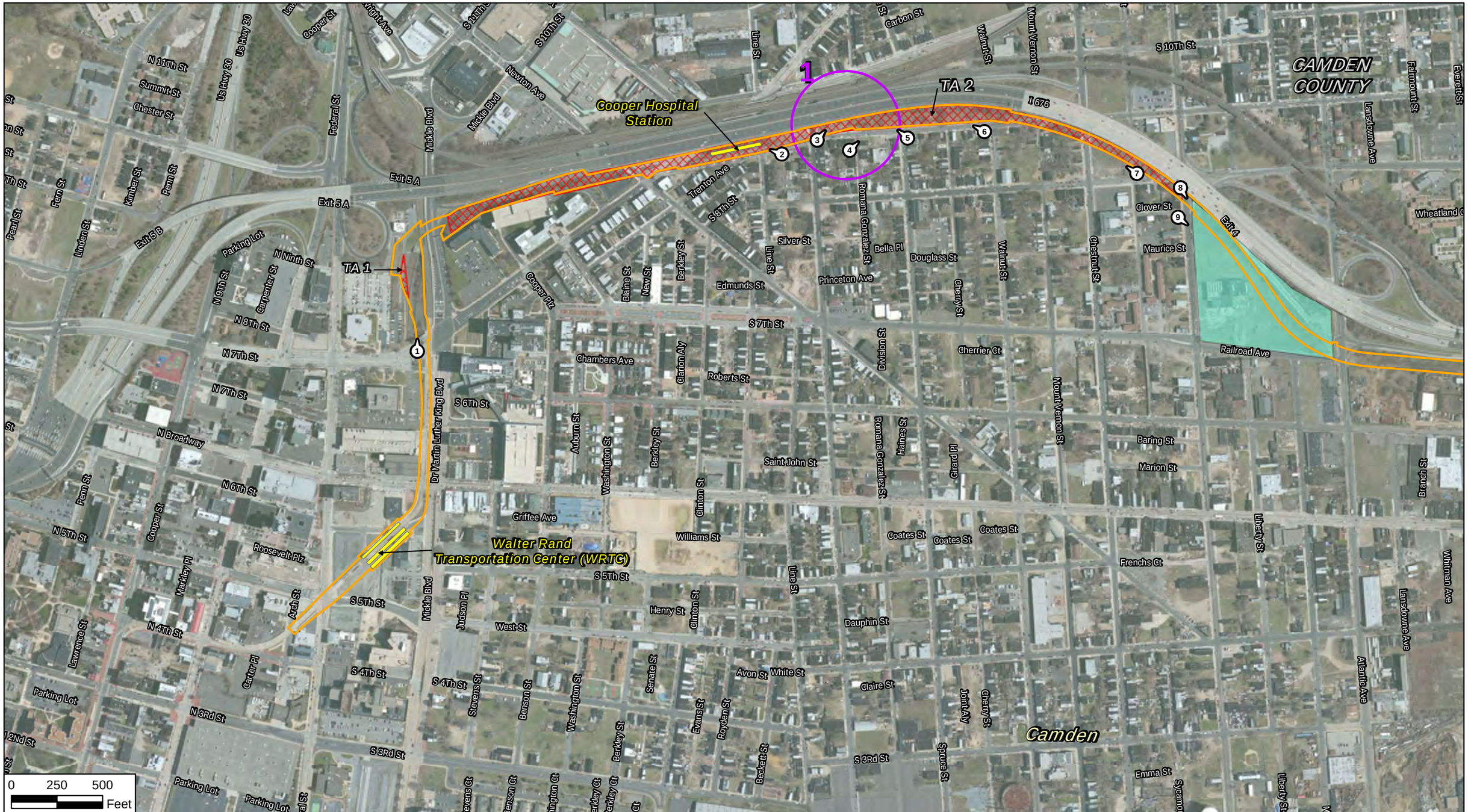

- Area of Potential Effects (APE)
- Test Area
- GCL Facilities
- Potential VMF Site Location
- Updated LOD
- Hazardous Waste Concern
- Revised APE Areas Since 2014
- Revised APE Areas (May 2018)
- Photograph Location
- County Boundary
- Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2A
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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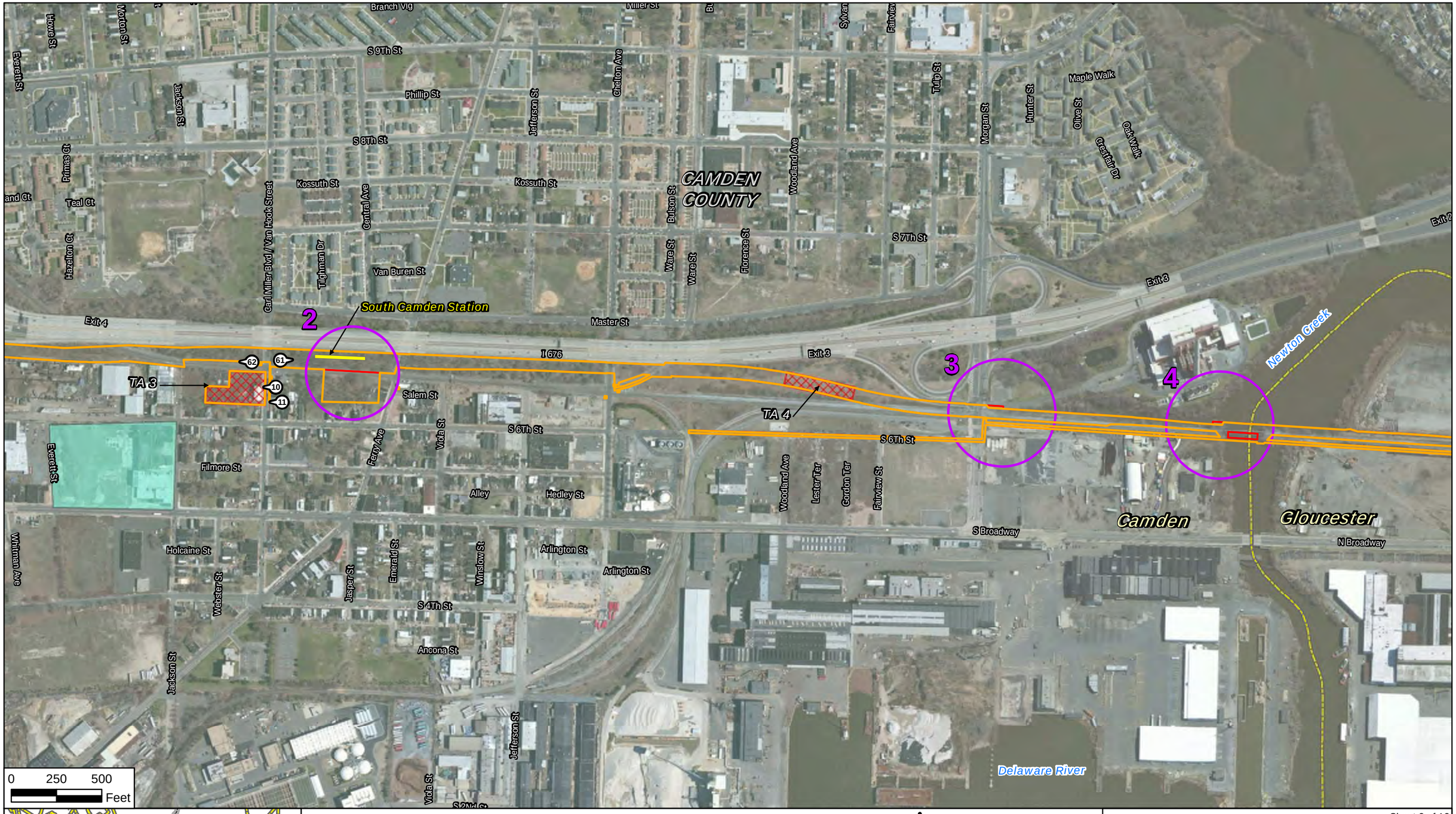

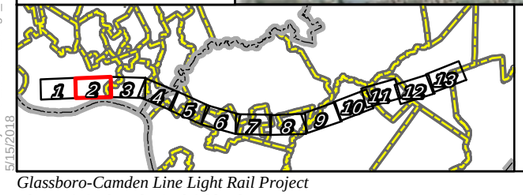

- Area of Potential Effects (APE)
- Test Area
- GCL Facilities
- Potential VMF Site Location
- Updated LOD
- Hazardous Waste Concern
- Revised APE Areas Since 2014
- Revised APE Areas (May 2018)
- Photograph Location
- County Boundary
- Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2B
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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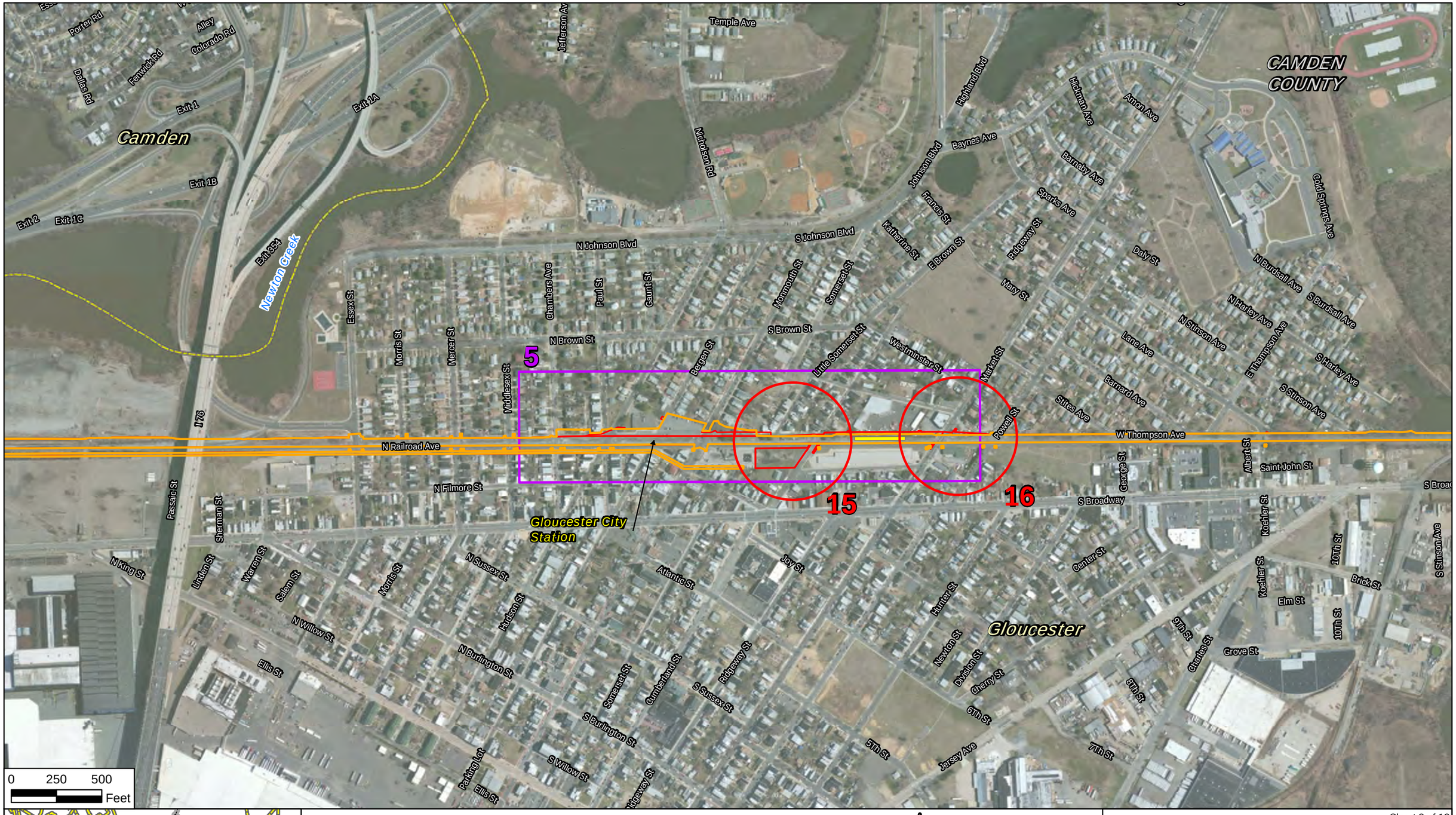

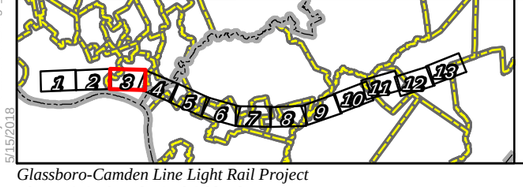

- Area of Potential Effects (APE)
- Test Area
- GCL Facilities
- Potential VMF Site Location
- Updated LOD
- Hazardous Waste Concern
- Revised APE Areas Since 2014
- Revised APE Areas (May 2018)
- Photograph Location
- County Boundary
- Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2C
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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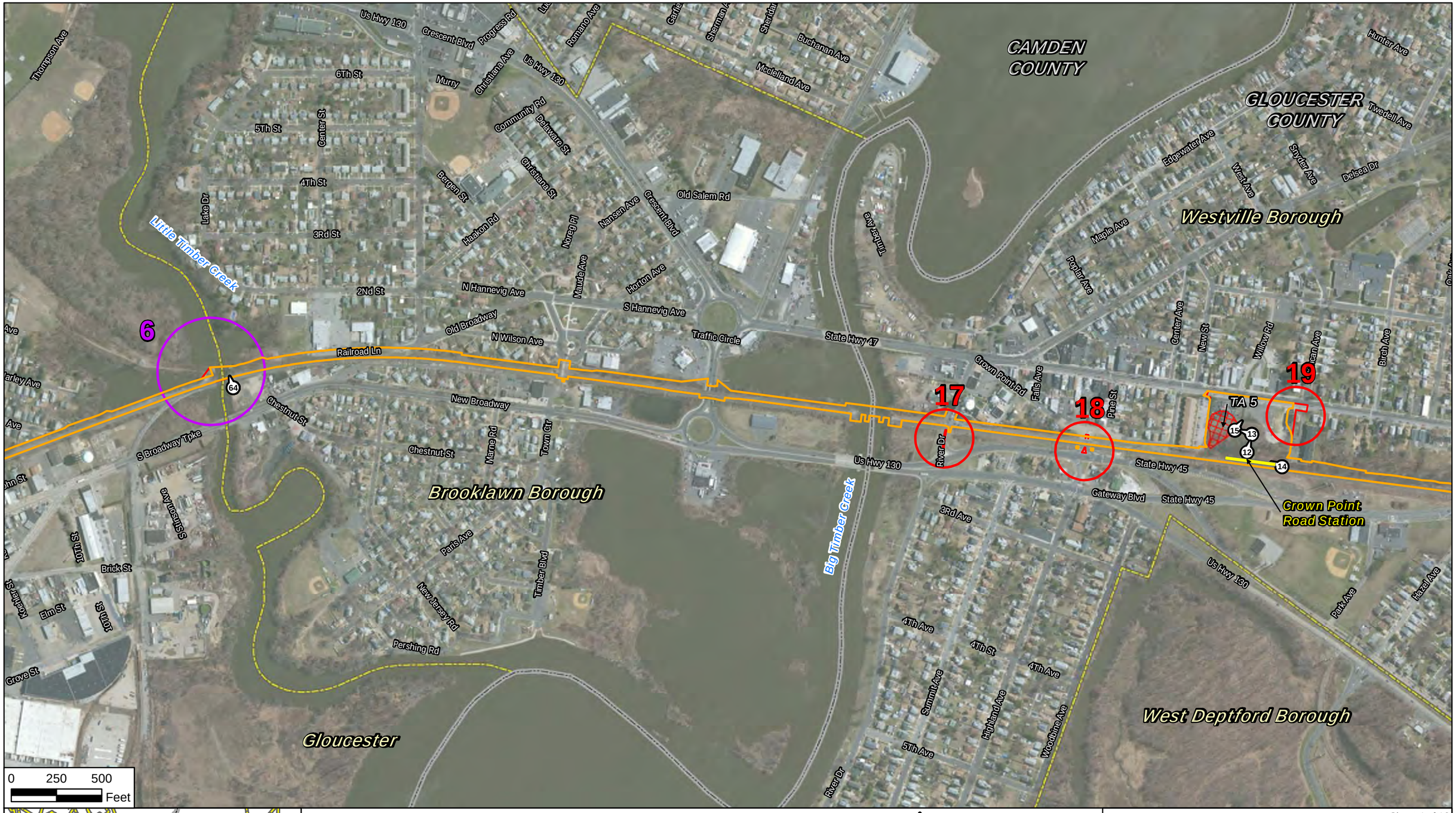

Area of Potential Effects (APE)
Test Area
GCL Facilities
Potential VMF Site Location
Updated LOD
Hazardous Waste Concern
Revised APE Areas Since 2014
Revised APE Areas (May 2018)
Photograph Location
County Boundary
Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2D
Area of Potential Effects (APE)
with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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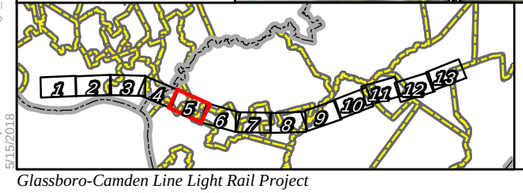

- Area of Potential Effects (APE)
- Test Area
- GCL Facilities
- Potential VMF Site Location
- Updated LOD
- Hazardous Waste Concern
- Revised APE Areas Since 2014
- Revised APE Areas (May 2018)
- Photograph Location
- County Boundary
- Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2E
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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Area of Potential Effects (APE)
Test Area
GCL Facilities
Potential VMF Site Location

Updated LOD
Hazardous Waste Concern
Revised APE Areas Since 2014
Revised APE Areas (May 2018)

Photograph Location
County Boundary
Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2F
Area of Potential Effects (APE)
with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2G
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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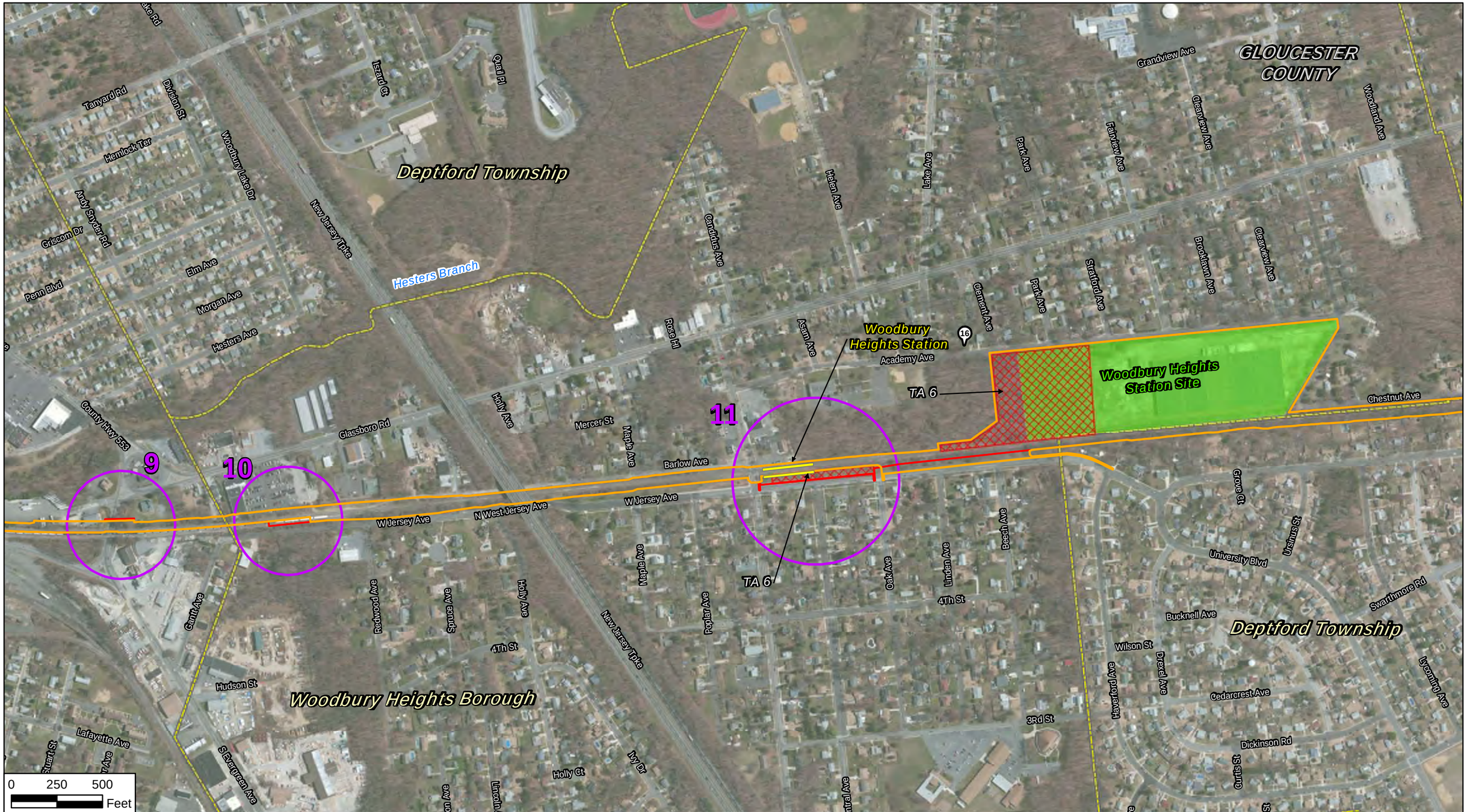

Area of Potential Effects (APE)
Test Area
GCL Facilities
Potential VMF Site Location
Updated LOD
Hazardous Waste Concern
Revised APE Areas Since 2014
Revised APE Areas (May 2018)
Photograph Location
County Boundary
Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2H
Area of Potential Effects (APE)
with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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Figure 2I
Area of Potential Effects (APE)
with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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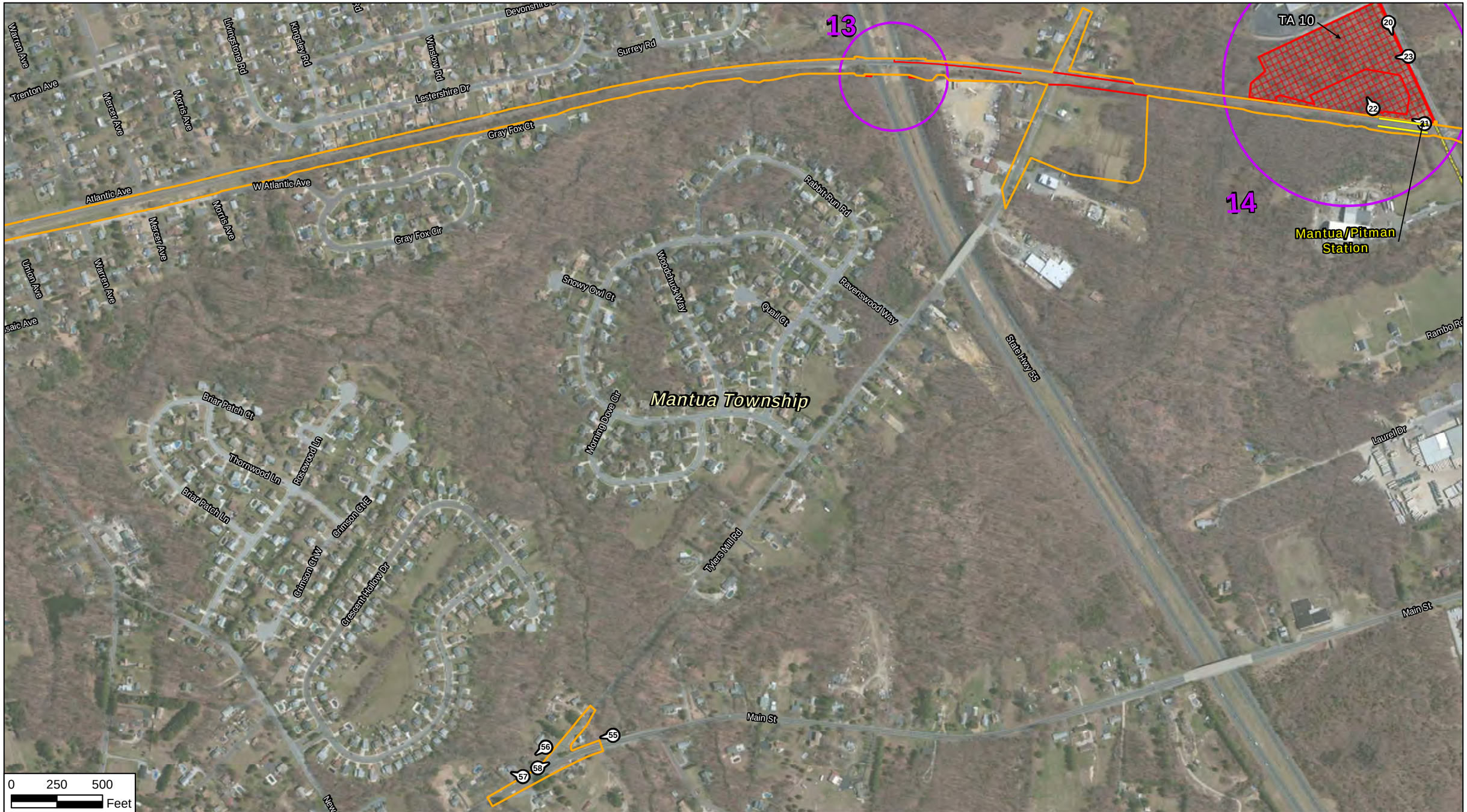

Area of Potential Effects (APE)
Test Area
GCL Facilities
Potential VMF Site Location
Updated LOD
Hazardous Waste Concern
Revised APE Areas Since 2014
Revised APE Areas (May 2018)
Photograph Location
County Boundary
Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2J
Area of Potential Effects (APE)
with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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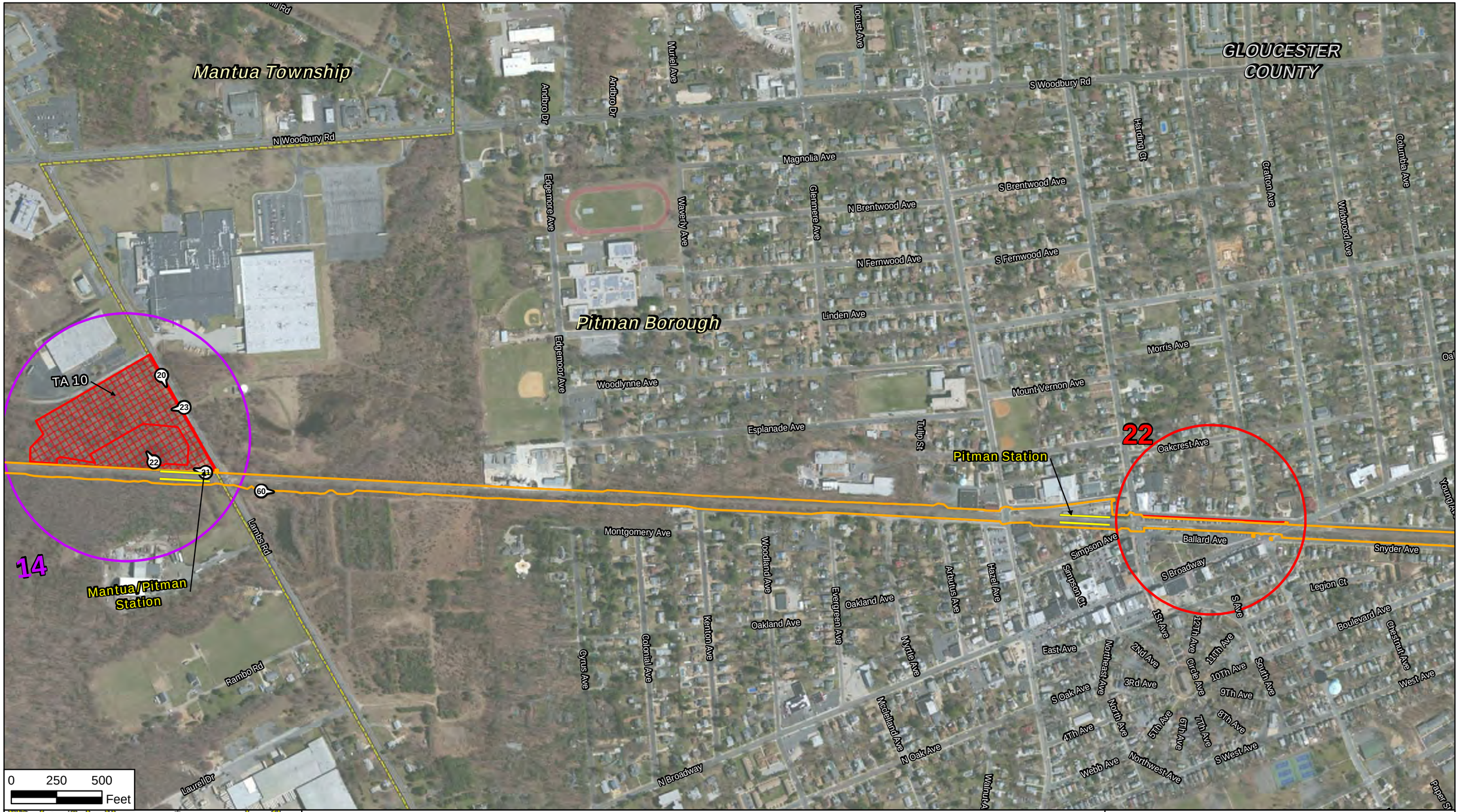

Area of Potential Effects (APE)
Test Area
GCL Facilities
Potential VMF Site Location

Updated LOD
Hazardous Waste Concern
Revised APE Areas Since 2014
Revised APE Areas (May 2018)

Photograph Location
County Boundary
Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2K
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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5/15/2018

Area of Potential Effects (APE)
Test Area
GCL Facilities
Potential VMF Site Location
Updated LOD
Hazardous Waste Concern
Revised APE Areas Since 2014
Revised APE Areas (May 2018)
Photograph Location
County Boundary
Municipal Boundary

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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Figure 2L
Area of Potential Effects (APE)
with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

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Figure 2M
Area of Potential Effects (APE) with Photograph and TA Locations
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, New Jersey

Map Source: i-cubed Nationwide Prime Imagery; National Hydrography Dataset (2002)

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The proposed GCL would restore passenger rail service primarily along the existing Conrail freight corridor between Camden and Glassboro. The northern end of the corridor would share tracks with the existing New Jersey TRANSIT RiverLINE from the Camden waterfront through the Walter Rand Transportation Center (WRTC) in downtown Camden. The GCL would operate as its own service from WRTC south to Glassboro. The proposed project would use diesel-powered light rail vehicles similar to the RiverLINE and would be designed to provide two tracks for light rail use: one for northbound service and one for southbound service. In general, this service would operate at-grade, but some portions would be elevated to pass over existing roads and waterways. Gated crossings would be used for at-grade crossings along the Conrail freight corridor. The GCL would operate within an urban environment along and within existing streets and roads at the northern end of the proposed alignment.

The WRTC would remain on the existing in-street RiverLINE alignment along a portion of Dr. Martin Luther King Boulevard. The line would be elevated from Haddon Avenue near Cooper Hospital Station south to Cherry Street, initially carried on an aerial structure consisting of tracks supported on piers. The elevated structure would curve southward and continue adjacent to Interstate 676 (I-676), running roughly along modern-day 9th Street. The line would be supported by a filled embankment retained within vertical walls from Pine Street south to Cherry Street. The embanked portion of the line would be carried over cross streets by newly constructed bridges. The line at Atlantic Avenue would encounter or lie closely parallel to the historic route of the Woodbury and Camden Railroad, which was later known as the West Jersey and Seashore Railroad.

The proposed alignment would be elevated on piers again in South Camden from south of Jackson Street to north of Morgan Street near an interchange with I-676. The proposed alignment would then return to grade and shift to the Conrail right-of-way along the east side of the existing freight track between Morgan Street and Newton Creek. The alignment would then continue east of, and parallel to, the existing freight track on two new light rail tracks at-grade to Woodbury City.

En route to Woodbury City, the proposed GCL alignment would cross over Newton Creek and pass beneath Interstate 76 (I-76)/Walt Whitman Bridge. The proposed alignment would traverse Gloucester City, cross Little Timber Creek, extend through Brooklawn Borough, cross Big Timber Creek, and enter into Westville Borough. The proposed GCL alignment would then cross beneath Interstate 295 (I-295) and cross over East Red Bank Avenue and Woodbury Creek as it continues to Woodbury City. South of Woodbury City, the proposed GCL alignment would continue at-grade to Glassboro Borough on two tracks made up of the existing freight track and a new track, which would be generally centered in the existing freight railroad right-of-way. En route to Glassboro Borough from Woodbury City, the proposed GCL alignment would cross beneath the New Jersey Turnpike through Woodbury Heights Borough, continue through Wenonah Borough and Mantua Township, then cross over New Jersey Route 55 (NJ Route 55) and enter Pitman Borough. South of Pitman Borough, the proposed GCL alignment would enter Glassboro Borough and continue adjacent to Rowan University as it crosses NJ Route 322. The southern segment of the proposed alignment in Glassboro Borough would follow a new right-of-way, diverge from the existing freight track at Zane Street, cross Union and South Main streets, turn northward within a former rail spur between and parallel to Main and Academy streets, and terminate south of High Street in Downtown Glassboro.

Fourteen potential new stations have been identified, namely:

- Two stations in Camden City (Cooper Hospital Station and South Camden Station);
- One station in Gloucester City (Gloucester City Station);
- One station in Westville Borough (Crown Point Road Station);
- Two stations in Woodbury City (Red Bank Avenue Station and Woodbury Station);
- One station in Woodbury Heights Borough (Woodbury Heights Station);
- One station in Wenonah Borough (Wenonah Station);
- Three stations in Mantua Township (Mantua Boulevard Station, Sewell Station, and Mantua/Pitman Station);
- One station in Pitman Borough (Pitman Station); and,
- Two stations in Glassboro Borough (Rowan University West Station and Glassboro Station).

As noted, ten of the 14 stations would be walk-up stations, with the South Camden, Crown Point Road, Mantua Boulevard, and the Mantua/Pitman stations proposed to include park-and-ride facilities. With the exception of the Cooper Hospital Station, South Camden Station, and Red Bank Avenue Station, stations would be located at existing ground level. Stations would be configured with center platforms, primarily from Woodbury City north; and side platforms, primarily south of Woodbury City. Platforms would be approximately 280 feet long to accommodate a two-car train. All stations would include facilities for bicyclists and pedestrians, including bike racks, sidewalks, and crosswalks. The proposed project would also include connections to the regional bus system. Ancillary facilities such as signal houses and crossing cases, as well as a maintenance and storage facility, would also be constructed. The maintenance and storage facility would be a full-service maintenance facility capable of fulfilling the GCL project's needs for preventative and corrective vehicle maintenance and maintenance-of-way equipment. Two potential locations for vehicle maintenance facilities (VMFs), both in Gloucester County, are currently under evaluation: one in Woodbury Heights and one along Sewell Street in Glassboro. It should be noted that the Sewell Street location was proposed after the Phase IA archaeological survey report was submitted, and it replaces a location further to the south that is no longer under consideration. Three proposed parking facility locations are also included in this project. One is located in Camden City at Railroad Avenue and Carl Miller Boulevard, and two are located in Gloucester County: one at Mantua Boulevard, and one at Lambs Road. A belowground gas pipeline from south of Chelton Avenue in Camden City will also be relocated to south of Little Somerset Street in Gloucester City as part of the project.

Proposed roadway improvements associated with the project include: construction along S. Railroad Avenue in Gloucester City; roadway and sidewalk construction at the intersection of Washington and Park avenues in Woodbury City; roadway widening along Tylers Mill Road in Mantua Township; and roadway and intersection improvements at Mullica Hill Road/NJ Route 322 in Glassboro Borough. Proposed off-corridor roadway improvements are proposed at the intersection of Cooper and South Evergreen avenues in Woodbury City, and widening for traffic mitigation is proposed at the intersection of Main Street and Tylers Mill Road in Mantua Township.

Proposed design changes since 2014 include 14 areas marked by red lines and are outlined in purple on Figures 2A through 2M. The purple-outlined areas, identified numerically on these figures and discussed in this paragraph, represent changes proposed between 2014 and 2017. In Camden, the Area of Potential Effects (APE) was expanded 0.02 acre at Pine and Romana Gonzales streets (1), decreased by the removal of a 1.6-acre parking area south of Carl Miller Boulevard (2), and decreased 0.3 acre at Morgan Street (3). A 0.2-acre increase is also proposed at the Newton Creek crossing (4) between Camden and Gloucester counties. Proposed project changes in Gloucester County include a 0.01-acre increase at Bergen Street, a 0.04-acre increase at Little Somerset Street, and a 0.19-acre increase north of Market Street (5). A 0.24-acre portion of the APE will decrease between Monmouth and Little Somerset streets. The APE will increase by 0.01 acre at the Little Timber Creek crossing in Gloucester City (6), 0.01 acre at the location of the proposed Red Bank Avenue Station (7), 1.63 acres at the proposed Woodbury Station (8), and 0.04 acre at South Evergreen Avenue (9) in Woodbury Township. Changes to the APE in Woodbury Heights Borough include increases of 0.14 acre at North West Jersey Avenue (10) and 0.68 acre at the Woodbury Station (8), as well as a decrease of 0.89 acre at Woodbury Heights Station (11). An increase of 0.01 acre is proposed at the Monongahela Brook crossing in Wenonah Borough (12), and a decrease is proposed north of the Mantua/Pitman Station in Mantua Township (13). The most significant increase to the APE is located along Lambs Road in Mantua Township, where an approximately 13-acre parking lot is proposed (14). In addition to these changes, three proposed station locations were also changed. The Gloucester City Station location was moved south where the rail line intersects Market Street (5) as shown on Figure 2C. The Woodbury Heights location was moved north and relocated just south of where the rail line crosses under the New Jersey Turnpike (11) as shown on Figure 2H. The Mantua/Pitman station location was moved south where the rail line intersects Lambs Road (14) as shown on Figures 2J and 2K. Changes proposed in 2018 are marked in red on Figures 2A through 2H. Additional changes are proposed on the north and south sides of Railroad Avenue at the Gloucester City Station on Figure 2C (15 and 16). Proposed changes in Westville Borough include an expansion of the APE at River Drive (17), south of Crown Point Road (18), and an expansion of the APE at Duncan Avenue (19; Figure 2D). Minor additions are proposed at the Hunter Street Lake and Broad Street Lake crossing (20) and north of the proposed Woodbury Station location (21) in Woodbury (Figure 2F). The APE will be expanded south of West Jersey Avenue in Pitman

Borough (22; Figure 2K) as well as south along South Main Street and north along Academy Street in Glassboro (23 and 24; Figure 2M). All changes to the APE were evaluated in relation to previous and current assessments for the presence of archaeological resources.

1.2 Previous Assessment Surveys

The initial Phase IA archaeological survey report was submitted in November 2013. Agency comments were received in the form of a letter dated December 3, 2013, from Daniel Saunders, Deputy State Historic Preservation Officer of the NJ HPO, to Letitia Thompson of the United States Department of Transportation (USDOT; the Federal Transit Administration [FTA] is the lead federal agency for the project; Appendix B). The letter included the following comments:

> The Phase IA report includes valuable information to understand the previous historic and Native American land use within the project's area of potential effect (APE). The HPO agrees with the background research and the general sensitivity outlined in the report. However, due to the preliminary nature of project plans, it is not possible to fully assess the potential to encounter archaeological resources throughout the APE. *Therefore, the HPO cannot concur with the need or lack of need for additional archaeological survey within portions of the APE at this time based on the lack of detailed project plans. Once plans for the construction of the light rail are fully developed, the HPO will be better able to provide guidance on the need for any further survey* [emphasis in original].

At the request of the NJ HPO, the project limits of disturbance (LOD) were presented on aerial photography map sheets adapted from the historic resources report prepared by A.D. Marble for the same project in 2014. The overall LOD was refined, and permanent and temporary construction-related impacts were further developed and combined to form the archaeological APE presented on Figures 2A through 2M. The 2014 report presented ten potential test areas (PTAs) where archaeological sensitivity was identified.

In response to the A.D. Marble 2014 Phase IA addendum report, NJ HPO provided the following comments in an April 25, 2014 letter:

No additional archaeological survey is necessary at the following locations:

- Camden north of WRTC;
- Camden Ferry Avenue South to Newton Creek;
- Newton Creek into Gloucester;
- Gloucester Station Area;
- Gloucester to Little Timber Creek;
- Former North Woodbury Station (abandoned);
- Brooklawn to Big Timber Creek and Westville;
- Woodbury Station area;
- Wenonah Station area;
- Mantua Creek crossing south of Wenonah;
- Mantua /Pitman Station along Tyler's Mill Road; and
- Pitman Station area. (Appendix B)

The NJ HPO agreed with the assessment of avoidance of PTA 9 (now TA 12). If the area cannot be avoided, then Phase IB investigations would be necessary. Also, they concur that Phase IB investigation is appropriate at all ten PTAs recommended in the A.D. Marble 2014 Phase IA addendum report. In addition to the recommendation of ten areas, they suggested that Phase IB archaeological survey is also appropriate at the following locations:

- Camden, Wright Avenue south to Kaighns Avenue;
- Red Bank Avenue Station in Woodbury;
- Woodbury Heights Station;
- Monongahela Brook crossing north of Wenonah (once construction methods identified;
- Eastern undeveloped portion of the Sewell Street VMF;
- Chestnut Branch tributary crossing at Heston Road;
- Rowan University West Station between Heston and Mullica Hill roads;
- PTA 9: Proposed rail line into the center of Glassboro;
- Off-Alignment at Cooper Street and South Evergreen Avenue; and
- Off-Alignment at Tylers Mill Road and Main Street.

NJ HPO editorial comments suggested the addition of photographs to the report would have greatly enhanced the report and recommendations. In addition, they requested the inclusion of the geomorphological report from the initial Phase IA study, and as well as a discussion of the Mantua Creek crossing south of Wenonah in the conclusions section as an area not requiring archaeological survey. As previously stated, one of the aims of the revised survey was to address these comments. The geomorphological report and all HPO correspondence are included as appendices to this report (Appendices C and B, respectively).

2.0 Phase IA Evaluation

2.0 PHASE IA EVALUATION

This section has been adapted from the earlier Phase IA archaeological survey reports in response to more detailed project data, changes in project plans, and responses to NJ HPO comments. The various geographic segments of the proposed GCL project are assessed from the standpoint of potential project impact, archaeological potential, and any recommendations for additional study. In order to more definitively evaluate and assess the APE for the presence of archaeological sensitivity, the principal investigator, assisted by an archaeological technician, conducted a pedestrian reconnaissance of the revised APE and locations recommended for Phase IB testing in the April 2014 NJ HPO letter. Digital photography was taken at relative locations to document current conditions.

2.1 Test Areas Recommended for Phase IB Survey

Throughout January and February 2018, A.D. Marble reassessed ten PTAs recommended in the 2014 Phase IA addendum report (A.D. Marble 2014) and assessed ten additional areas recommended for Phase IB testing in an April 2014 NJ HPO response letter (included in Appendix B), as well as all areas of new alignment. The following section presents the results of the most recent study.

2.1.1 Test Area 1

Test Area (TA) 1 consists of portions of the block bounded on the west by 7th Street, former Carman Street to the north, and former Bridge Avenue to the south (Figure 2A). The block lies south of Federal and Market streets, which were laid out in the original town grid in the early nineteenth century. The 1891 Sanborn Map indicated a series of rowhouses two stories in height facing northward onto Carman Street. Some of the houses had rear ells two stories or one story in height, while others had only narrow one-story additions. The map shows a water main 4 inches in diameter beneath Carman Street, suggesting the houses may have benefited from piped water. The narrow one-story additions may have been rear porches. The destruction date for these houses is unclear. Conditions observed during the most recent survey are illustrated in Photograph 1. Phase IB field survey is recommended at this location, provided the demolition of

Photograph 1: View of the approximate location of Test Area 1 near Dr. Martin Luther King Boulevard, facing east (February 2018).

the houses did not severely impact the subterranean deposits on the block. A combination of mechanically excavated trenches and strategically placed shovel test pits (STPs) would provide an adequate testing strategy at this location.

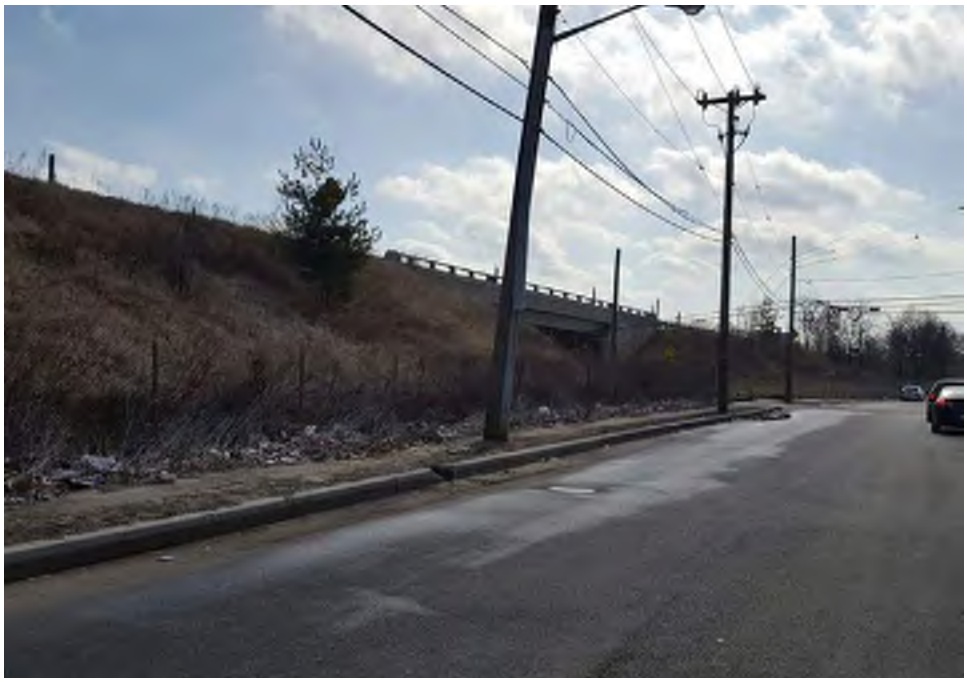
2.1.2 Test Area 2

TA 2 is located between Wright Street and Kaighns Avenue in Camden (Figure 2A). South of Bridge Avenue, the corridor is carried on the pier-supported aerial structure along the west side of I-676. As indicated on a 1906 Sanborn Map (A.D. Marble 2014), the corridor will cross Wright Avenue and extend across former row house locations along Carteret Street to Newton Avenue. The corridor passes through former residential blocks between Haddon and Trenton avenues down to Line Street. At this point, the corridor lies slightly east of 9th Street and crosses Pine, Division, and Spruce streets. The GCL rail corridor south of Pine Street to Cherry Street will be supported on a filled embankment.

Presently, a narrow strip of ground survives between 9th Street to the west and the embankment for I-676 to the west from Line Street south to Mt. Vernon Street (Photograph 2). Dwellings clearly stood along these streets in the early twentieth century, and these structures may have been demolished during the construction of I-676. The narrow strip of land at the base of the highway embankment will be very difficult to examine; therefore, it is recommended that monitoring during construction be undertaken for the residential blocks from Wright Street down to Haddon Avenue. Photograph 2 shows the current conditions at this location.

The corridor follows the westward bend of I-676 from Haddon Avenue to Kaighns Avenue at 8th Street. Housing development was somewhat less dense here in the late nineteenth and early twentieth centuries, although the blocks south of Mt. Vernon and Chestnut streets were occupied. This portion of the TA is more open and currently consists of vacant lots (Photographs 3 to 9). The corridor passes along rear yards of former nineteenth- and twentieth-century residences. Intact ground surfaces may still remain at this location. Demolition of the residences and highway construction may have left large quantities of debris overlying the potentially intact surfaces. Therefore, systematic mechanical trenching followed by STP excavation of intact surfaces (if present) is the recommended Phase IB method throughout TA 2.

Photograph 2: View of the northern end of Test Area 2 from Commerce Street in Camden, showing the sloped berm of I-676, facing northeast (February 2018).



Photograph 3: View of the sloped berm of Test Area 2 from Pine Street in Camden, facing southeast (February 2018).

Photograph 4: View of Test Area 2 from Romana Gonzales Street in Camden showing the narrow strip along the base of the I-676, facing southeast (February 2018).

Photograph 5: View of Test Area 2 from Spruce Street in Camden showing the grassy area between South 9th Street and I-676, facing northeast (February 2018).

Photograph 6: View of Test Area 2 from Walnut Street in Camden showing the grassy area between South 9th Street and I-676, facing northeast (February 2018).

Photograph 7: View of a vacant lot in Test Area 2 between South 8th and South 9th streets, facing northeast (February 2018).

Photograph 8: View of a vacant lot in Test Area 2 from Chestnut Street, facing southwest (February 2018).

Photograph 9: View of the southern terminus of Test Area 2 showing a portion of the APE where it crosses through an area of hazardous waste issues, facing southwest (February 2018).

2.1.3 Test Area 3

TA 3 (former PTA 2N) will focus on the proposed location of the parking lot north of Van Hook Street/Carl Miller Boulevard and east of South 6th Street (Figure 2B). The 1891 Sanborn Map suggests the parking lot would be placed over former residences fronting Railroad Avenue and portions of backyards of residences fronting South 6th Street. The southern extent of the proposed location would be located over the former Cottrell & Wolfenden Hosiery Manufacturers (A.D. Marble 2014). Buildings located on this lot in 1891 included a processing, storage, finishing, and knitting house; and a dye house with a dryer and steam room. The dye house appears to have been covered by asbestos. Testing at the location may be problematic due to hazardous waste issues related to the manufacturing of hosiery, particularly at the location of the dye house. Current conditions observed at this location include a heavily overgrown lot covered by dilapidated buildings, building materials, and garbage (Photographs 10 and 11). Similar to portions of TA 2, it is recommended that Phase IB survey include mechanical trenching followed by STP excavation of intact surfaces if present.

2.1.4 Test Area 4

TA 4 (formerly PTA 3) is located adjacent to I-676 and north of an exit ramp down to Morgan Street (Figure 2B). Previous excavations at the diagonally opposite quarter of the interchange to the southeast (Mounier 1976), which were conducted prior to construction of the highway, revealed intact stratigraphy containing evidence of a precontact site (28-Ca-22) near Newton Creek. For planning purposes, a PTA 70 feet wide (width of LOD) and 300 feet long in the northwest quarter is proposed. It is recommended that this location undergo subsurface investigations that include systematic shovel testing.

2.1.5 Test Area 5

TA 5 (formerly PTA 4) lies on the east side of the proposed corridor at the Crown Point Road Station (Figure 2D). The area measures roughly 460 by 310 feet and extends from the corridor east to S. Hannevig Avenue/NJ Route 47. Project plans propose a parking area development associated with the station. Much of the eastern and southern portions of the area are covered with asphalt, and an automobile service station stands on the property. Wetlands and marsh are

Photograph 10: View of a vacant lot in Test Area 3 showing spoil piles of soil, rubble, and trash, facing north (February 2018).

Photograph 11: View of the southern edge of Test Area 3 showing partially demolished buildings, spoil piles, and recent garbage piles, facing north (February 2018).

located along the western edge of the TA. Photographs 12 to 15 depict the current conditions observed during the pedestrian reconnaissance. Phase IB investigations are recommended in portions at this location due to a moderate to high potential for precontact resources. Investigation methods will include systematic shovel testing of undisturbed portions of the lot.

2.1.6 Test Area 6

A railroad VMF is proposed along the tracks within the Borough of Woodbury Heights (Figure 2H). The area would include 18.2 acres, and measure between 1,400 and 1,750 feet in length north-south and roughly 525 feet in width. Much of the proposed area was impacted by the construction of a rectangular warehouse structure ca. 1960 that was recently demolished. The rail corridor within the township crosses a flat upland above and west of a north-flowing tributary of Woodbury Creek. Although no archaeological sites have been previously recorded in the vicinity, the wooded northern portion of the proposed maintenance area (Photograph 16) and a wooded lot west of the tracks and north of the proposed Woodbury Heights Station will require Phase IB archaeological testing (TA 6; formerly PTA 5) due to the potential for the presence of precontact resources. Testing methods will include systematic STP investigation of approximately 6.7 acres at this location.

2.1.7 Test Area 7

TA 7 is located just north of the corridor's intersection with Mantua Creek in Wenonah Borough and Deptford Township (Figure 2I). The rail line crosses the Monongahela branch of Mantua Creek and the main channel of the creek between Wenonah and Sewell. The 1891 U.S. Geological Survey (USGS) map indicates that both crossings occur within deeply incised valleys. A recorded precontact site, 28-Gl-150, is located on an upland flat between the two creeks east of the rail corridor. The rail line formerly crossed the main creek over a brick arch bridge that was probably constructed in the mid-nineteenth century when the railroad was extended south from Woodbury to Glassboro. However, this brick arch bridge was apparently replaced within the recent past. Current options for this project include the placement of a new bridge to either side of the current crossing. No decisions have been made regarding which side

Photograph 12: View of a grass-covered stony parking area along the south side of Test Area 5, facing southeast (February 2018).

Photograph 13: View of a wooded wetland at the south-central section of Test Area 5, facing northeast (February 2018).

Photograph 14: View of a marshy stream along the western edge of Test Area 5, facing northeast (February 2018).

Photograph 15: View of the paved section in Test Area 5, facing southeast (February 2018).

Photograph 16: View of the general conditions observed in Test Area 6, facing west (February 2018).

would be used. The current APE provides for either decision and includes space for construction, access, and staging. Recommended Phase IB investigation will include the employment of standard-interval (15-meter) STPs in this TA.

2.1.8 Test Area 8

A new station is proposed along the west side of the rail line, immediately north of the junction with Mantua Boulevard (Figure 2I). The proposed area is located in an agricultural field behind a modern commercial building (Photograph 17). The proposed station includes a parking lot for approximately 250 cars between the commercial building and the rail line. The triangular parking lot measures roughly 510 feet by 550 feet by 750 feet.

A recorded precontact site, 28-Gl-150, was located on a similar landform on the opposite side of Mantua Creek, and an isolated precontact artifact was recorded in the early twentieth century to the north. Geomorphological investigations conducted by Dan Wagner revealed an Ap-horizon plowzone over a sandy E-horizon and underlying sandy Bt-horizon subsoil (Appendix C). The 1962 soils manual for Gloucester County mapped the portion of the field near the road and railroad as a former sand and gravel pit (United States Department of Agriculture [USDA] 1962). The archaeological potential would appear to be confined to the Ap-horizon. Phase IB survey testing is recommended at the proposed parking lot. Recommended investigation will include systematic testing of TA 8 (formerly PTA 6) with standard-interval STPs.

2.1.9 Test Area 9

TA 9 (formerly PTA 7) is located in Mantua Township (Figure 2I). The historic location of Sewell Station extends from Sussex Avenue past Essex Avenue to Center Street. The station building still stands near the tracks at the northwest corner of Center Street (Photographs 18 and 19). The proposed new station platforms would extend along the light rail tracks from Sussex to Essex avenues, with landscaping from Center Street to north of Sussex Avenue. The proposed development would apparently result in limited disturbance to most potential railroad features.

Photograph 17: View of the open agricultural field and wooded area along the eastern edge of Test Area 8, facing northeast (February 2018).

Photograph 18: View of the abandoned Sewell Station south of Test Area 9, facing southwest (February 2018).

Photograph 19: View of the open field at the location of the former Sewell Station in Test Area 9, facing southwest (February 2018).

However, TA 9 is located on the east side of the tracks at the site of a "Freight Ho." on the 1916 Interstate Commerce Commission (ICC) Valuation map of Sewell Station. Numerous stations remain standing along the GCL corridor, but no surviving freight houses have yet been identified. A limited Phase IB survey investigation is recommended to determine if the outline of the freight house may still survive and be recorded. Standard-interval STPs are recommended at this location.

2.1.10 Test Area 10

TA 10 is located along Lambs Road, east of the proposed corridor, and south of the proposed Mantua/Pitman Station (Figures 2J and 2K). A parking lot is proposed at this location. Current conditions observed during the most recent reconnaissance include a wooded lot of secondary growth trees with a wetland located near the southwest edge of the TA, a relatively steep man-made road berm, and a steep railroad berm. Photographs 20 to 23 provide an overview of the TA. Relatively flat uplands overlook a wetland, creating an attractive location for Native American occupation. As such, it is recommended that this location be subjected to Phase IB investigations that include systematic shovel testing.

2.1.11 Test Area 11

A new station is proposed along the tracks immediately north of Mullica Hill Road (NJ Route 322) at Rowan University (Figure 2L). This location would utilize an existing parking lot to the east that is associated with Rowan University. The station would be built along an elevated portion of the tracks. A recorded precontact site, 28-Gl-317, is located north of the parking lot. Proposed roadway improvements have expanded the APE along Mullica Hill Road/NJ Route 322 east and west of the GCL corridor near the proposed Rowan University West Station in Glassboro Borough. Most of the planned improvements will occur in areas of obvious disturbance. However, a small area just north of the parking lot does not appear to be as heavily disturbed and will require a Phase IB survey (Photographs 24 and 25). In addition, the GCL line will cross a tributary to Chestnut Branch, and the APE expands onto a relatively flat wooded area west of the Conrail Line (Photograph 26). Phase I testing of TA 11 (former PTA 8) will include standard-interval testing at the two proposed locations.

Photograph 20: View of the southeastern edge of Test Area 10 along Lambs Road, facing southwest (February 2018).

Photograph 21: View of the western edge of Test Area 10 along the Conrail Line, facing north (February 2018).

Photograph 22: View of wetlands located in Test Area 10, facing northeast (February 2018).

Photograph 23: View of a wooded lot overlooking wetlands in Test Area 10, facing northwest (February 2018).

Photograph 24: View of general conditions observed in Test Area 11, facing north (February 2018).

Photograph 25: View of general conditions observed in Test Area 11, facing south (February 2018).

Photograph 26: View of the general conditions observed within the APE at the Chestnut Branch tributary crossing on the west side of the Conrail Line in Test Area 11, facing north (February 2018).

2.1.12 Test Area 12

TA 12 (former PTA 9) occupies a triangular lot between Ellis Street and Girard Road (Figure 2M). Since the wooded location was a former rail yard, as evidenced by the presence of rail lines on the property (Photograph 27), the potential of archaeological resource and hazardous materials contamination is present. Data from an assessment of the presence of such hazardous materials must be provided prior to Phase IB investigations. Once the assessment has been completed, the TA will undergo Phase IB investigation that will include systematic shovel testing at standard intervals.

2.1.13 Test Area 13

An extension of GCL service into the center of Glassboro is under consideration. This extension would lie within a former rail corridor that was in existence by the early 1890s and is shown on the 1916 ICC Valuation maps. An earlier map of Glassboro reveals that the northern portion of the spur line was not in existence in 1876, but it does indicate the presence of numerous houses along Main Street to the west and Academy Street to the east. The proposed line would follow the spur line rail corridor from the main GCL tracks to the west and would extend northward to a point roughly adjacent to the junction of Wilmer and Main streets. In addition, a new station to serve downtown Glassboro is proposed at the end of this extension line between Main and Academy streets. Photographs 28 to 33 illustrate the current conditions of the TA.

TA 13 (former PTA 10) includes the northern end of the proposed rail line into Glassboro at the point where the corridor forms a T-shaped connection with Main Street to the west and Academy Street to the east, the proposed rail line between South Main Street and the T-shaped connection, and southeast of Zane Street (Figure 2M). The T-shaped connection is irregular in shape but measures roughly 60 to 80 feet wide (north-south) and 620 feet in length (east-west). The testable portion of the corridor measures approximate 70 feet wide by 750 feet in length. Since this TA has the potential to impact archaeological deposits in the yards of the nineteenth-century houses in addition to railroad-related features, Phase IB archaeological survey consisting of standard-interval STPs is recommended.

Photograph 27: View of the general conditions observed within Test Area 12, facing northeast (February 2018).

Photograph 28: View of the western end of Test Area 13 showing some of the nineteenth-century buildings at this location, facing east (February 2018).

Photograph 29: View of the eastern end of Test Area 13 showing backyards of nineteenth-century buildings in Glassboro, facing northeast (February 2018).

Photograph 30: View of the proposed line into Glassboro, facing south (February 2018).

Photograph 31: View of the proposed line into Glassboro, facing north (February 2018).

Photograph 32: View of an open lawn where the proposed line enters Glassboro, facing southwest (February 2018).

Photograph 33: View of a parking lot and area under development where the line enters Glassboro, facing west (February 2018).

2.1.14 Test Area 14

TA 14 is located at the proposed New Glassboro Yard Site, which was formerly referred to as the Sewell Street VMF (Figure 2M). The location measures roughly 1,850 by 920 feet and is mostly covered by a historic glass manufactory building dating from around 1918. Wooded lots are located on the north and south ends of the TA. A large grassy area is present in the northeast corner. Photographs 34 to 36 illustrate the current conditions observed during the most recent survey. Systematic Phase IB shovel testing should occur in the undeveloped portions of the south wooded lot and the northeast lawn area of TA 14.

2.2 Assessment of 2014 NJ HPO Recommendations

As previously mentioned, an April 2014 NJ HPO letter written in response to the A.D. Marble 2014 Phase IA addendum report concurred with the recommendation of Phase IB testing at ten proposed locations. NJ HPO also recommended an additional ten locations. This section of the report addresses those recommendations.

2.2.1 Camden, Wright Avenue South to Kaighns Avenue

A.D. Marble is in agreement with NJ HPO regarding this portion of the APE, and it is now part of TA 2. Phase IB investigation is recommended at this location (Figure 2A). However, considering the unique nature of the area, modified Phase IB methods will be required and are further discussed in the following section.

2.2.2 Red Bank Avenue Station in Woodbury

A new station is proposed south of Red Bank Avenue and north of the former position of Woodbury Creek, currently impounded in lakes (Figure 2F). The station would be located between an existing strip mall (east) and commercial pharmacy building and electrical transformer (west). Although the location is currently extensively developed, the landform indicated on the 1891 USGS map would have been an elevated south-facing point of land above wetlands on the north side of Woodbury Creek. Such a location would be considered highly favorable for precontact occupation. The proposed station developments along the tracks are minimal, consisting primarily of a platform between the tracks and some landscaping with a

Photograph 34: View of an open grassy lot in the northeast corner of Test Area 14, facing south (February 2018).

Photograph 35: View of the open grassy lot in the northeast corner of Test Area 14, facing north (February 2018).

Photograph 36: View of a wooded lot in the south side of Test Area 14, facing southwest (February 2018).

slight widening of the LOD to the east. No further investigations are recommended. Roadway widening and a sidewalk are proposed along Red Bank Avenue; however, this does not change the recommendation of additional work, as the impacts will fall within heavily developed portions of the APE (A.D. Marble 2014). Current conditions observed during the 2018 pedestrian reconnaissance confirmed the previous assessment. Photographs 37 to 42 show steep man-made berms on which the new station will sit (Figure 2F). A small portion of a grassy lawn is located along Red Bank Avenue. Underground utility lines have likely disturbed this area as well. It is the opinion of A.D. Marble that no Phase IB survey is necessary at this location due to the significant amount of modern disturbance observed during the pedestrian reconnaissance of the area.

2.2.3 Woodbury Heights Station

A.D. Marble agrees with the NJ HPO assessment regarding the necessity for Phase IB investigations in the undeveloped portions of the proposed Woodbury Heights Station (Figure 2H). This area will be subjected to Phase IB investigations as part of TA 6.

2.2.4 Monongahela Brook Crossing North of Wenonah (Once Construction Methods Identified)

A.D. Marble agrees with the NJ HPO assessment regarding the necessity for Phase IB investigations in the undeveloped areas at the Monongahela Brook crossing north of Wenonah (Figure 2I). This area will be subjected to Phase IB investigations as TA 7.

2.2.5 Rowan University West Station between Heston and Mullica Hill Roads

Most of the planned improvements will occur in areas of obvious disturbance. This location would utilize an existing parking lot to the east that is associated with Rowan University. The station would be built along an elevated portion of the tracks (Figure 2L; Photographs 43 and 44). It is recommended that no further investigations are warranted at this location.

Photograph 37: View of the proposed Red Bank Avenue Station on the raised Conrail Line, facing northeast (February 2018).

Photograph 38: View of the steep berm on the west side of the Conrail Line at the proposed Red Bank Avenue Station, facing southeast (February 2018).

Photograph 39: View of the steep berm on the west side of the Conrail Line at the proposed Red Bank Avenue Station, facing northeast (February 2018).

Photograph 40: View of the steep berm on the east side of the Conrail Line at the proposed Red Bank Avenue Station, facing southwest (February 2018).

Photograph 41: View of the grassy lawn at the intersection of East Red Bank Avenue and the bridge that carries the Conrail Line, showing the location of underground utility lines (water main), facing northwest (February 2018).

Photograph 42: View of the steep berm on the east side of the Conrail Line at the proposed Red Bank Avenue Station, facing northeast (February 2018).

Photograph 43: View of the proposed Rowan University West Station showing the prepared railroad berm and parking lot on the east side, facing north (February 2018).

Photograph 44: View of the proposed Rowan University West Station, facing northeast (February 2018).

2.2.6 Chestnut Branch Tributary Crossing at Heston Road

This area was investigated during the pedestrian reconnaissance, and a section of the APE is located in a relatively flat wooded area on the western side of the proposed corridor where Phase IB survey is recommended (Figure 2L). The western side of the tracks will be tested as part of TA 11. The eastern side of the crossing will be confined within the steep Conrail berm where no further studies are recommended (Figure 2L; Photograph 45).

2.2.7 PTA 9: Proposed Rail Line into the Center of Glassboro

This extension would lie within a former rail corridor that was in existence by the early 1890s and is shown on the 1916 ICC Valuation maps. The proposed line would follow the spur line rail corridor from the main GCL tracks to the west and would extend northward to a point roughly adjacent to the junction of Wilmer and Main streets. It is likely that the spur line has significantly compromised the integrity of the landscape and thereby removed any potential for buried resources; however, no clear evidence of disturbance, other that the section west of South Main Street (Figure 2M; Photograph 33), was observed during the pedestrian reconnaissance. Therefore, it is recommended that systematic Phase IB shovel testing should occur in the areas where no obvious disturbance could be documented as part of TA 12.

2.2.8 Eastern Undeveloped Portion of the Sewell Street VMF

This location has been renamed as the New Glassboro Yard Site. Much of this area has undergone significant development (Figure 2M; Photographs 46 to 49). The northern woods at the proposed location are heavily disturbed along its western end, as evidenced by large push-piles of building debris (Photographs 46 and 47), and the eastern end is completely inundated with water and appears to be an active wetland (Photograph 49). With the exception of an open lawn area and a wooded lot to the south, the rest of the area is covered by asphalt or buildings (Photograph 48). A.D. Marble is recommending Phase I investigations in the open lawn area and in the southern wooded lot as TA 14.

Photograph 45: View of the east side of the corridor where it crosses over the Chestnut Branch tributary north of the Rowan University West Station showing the steep berm, facing north (February 2018).

Photograph 46: View of push-piles of rubble, soil, and scrap metal in the woods north of the New Glassboro Yard Site, facing northwest (February 2018).

Photograph 47: View of concrete rubble in the north woods at the New Glassboro Yard Site, facing northwest (February 2018).

Photograph 48: View of a paved area in the northwest corner of the New Glassboro Yard Site, facing southwest (February 2018).

Photograph 49: View of wetlands along the eastern edge of the New Glassboro Yard Site, facing north (February 2018).

2.2.9 Off-Alignment at Cooper Street and South Evergreen Avenue

Proposed off-alignment construction activities include intersection widening for traffic mitigation at Cooper Street and South Evergreen Avenue in Woodbury (Figure 2F). A significant amount of modern disturbance was documented at this location during the pedestrian reconnaissance. Turn lanes, sidewalks, and underground utilities comprise the APE (Photographs 50 to 54). Disturbance caused by their construction has very likely removed any potential for the presence of intact resources; therefore, it is the opinion of A.D. Marble that no additional studies are recommended at this off-alignment portion of the APE.

2.2.10 Off-Alignment at Tylers Mill Road and Main Street

A reconfigured intersection for traffic mitigation is proposed at Tylers Mill Road and Main Street in Mantua (Figure 2J). Conditions observed at this proposed location (Photographs 55 to 58) are similar to those observed at the Cooper Street location. Modern disturbances caused by road and belowground utility lines (i.e., water main) very likely removed any potential for the presence of intact resources; therefore, it is the opinion of A.D. Marble that no additional studies are recommended at this off-alignment portion of the APE.

Photograph 50: View of the southwest quadrant of the Cooper Street intersection improvement area, showing the road and sidewalk within the APE, facing southeast (February 2018).

Photograph 51: View of the northwest quadrant of the Cooper Street intersection improvement area showing the road, a sidewalk, and a very small portion of a landscaped yard within the APE, facing southeast (February 2018).

Photograph 52: View of the southwest quadrant of the Cooper Street intersection improvement area showing the road and sidewalk within the APE, facing southwest (February 2018).

Photograph 53: View of the northwest quadrant of the Cooper Street intersection improvement area showing the road, a sidewalk, and a portion of a landscaped yard within the APE, facing northeast (February 2018).

Photograph 54: View of the northwest quadrant of the Cooper Street intersection improvement area showing the road, sidewalk, and landscaped yard, facing northwest (February 2018).

Photograph 55: View of the intersection at Tylers Mill Road and Main Street in Mantua Township showing the road, road berms, and underground utility corridors, facing northwest (February 2018).

Photograph 56: View of the northeast quadrant of the Tylers Mill Road and Main Street intersection showing the location of subsurface utility lines within the APE, facing northwest (February 2018).

Photograph 57: View of the northeast quadrant of the Tylers Mill Road and Main Street Intersection, facing northeast (February 2018).

Photograph 58: View of the intersection of Tylers Mill Road and Main Street in Mantua Township, facing southeast (February 2018).

3.0 Summary and Recommendations

3.0 SUMMARY AND RECOMMENDATIONS

3.1 Assessment Summary

Following the reassessment of PTAs in the A.D. Marble 2014 Phase IA addendum report, the assessment of ten areas recommended for testing in an NJ HPO response letter, and a review of the addition of areas of new alignment throughout the APE, A.D. Marble recommends the following actions as a result of the revised Phase IA archaeological investigations.

No Further Work Required

- The 12 areas not recommended for Phase IB testing in the 2014 A.D. Marble report and concurred upon in the 2014 NJ HPO letter are not recommended for further work. Photographs 59 to 64 depict the typical disturbed conditions and areas of low archaeological sensitivity observed throughout the bulk of the GCL corridor. The small changes to the APE throughout the 12 agreed-upon locations do not change the assessment of low potential to provide any significant information regarding precontact or historic occupation in the GCL corridor. Therefore, it is the opinion of A.D. Marble that no further investigations are required at these 12 locations.
- The relocation of a belowground gas pipeline for south of Chelton Avenue in Camden City to south of Little Somerset Street in Gloucester City will occur below a paved street where previous disturbance has more than likely removed any potential for intact historic or precontact resources.

Response to the NJ HPO Recommendations

- The location of the proposed Red Bank Avenue Station in Woodbury will be constructed in an area that has undergone significant modern disturbance on steep railroad berms. No further investigation is recommended at this location.
- The APE expansion at Woodbury Station requires no further work. The APE was expanded approximately 1.63 acres southeast of the former Woodbury Station (now a café). The expansion is proposed through a juror's parking lot (Photograph 65) where previous disturbance has more than likely removed any potential for intact historic or precontact resources.

Photograph 59: View of the proposed GCL corridor southeast of the Sewell Station in Gloucester County showing the at-grade rail lines, facing southeast (February 2018).

Photograph 60: View of the proposed GCL corridor south of Lambs Road in Pitman Borough, facing south (February 2018).

Photograph 61: View of the proposed GCL corridor along Railroad Avenue in Camden, facing south (February 2018).

Photograph 62: View of the proposed GCL corridor along Railroad Avenue in Camden, facing north (February 2018).

Photograph 63: View of a channelized creek at the base of the steep berm carrying the Conrail Line through Deptford Township, facing south (February 2018).

Photograph 64: View of the proposed GCL corridor over Little Timber Creek showing the extensive mud flats observed at the stream crossings throughout the APE, facing east (February 2018).

Photograph 65: View of the proposed expansion at Woodbury Station across a paved parking lot in Woodbury Township, facing south (February 2018).

- Proposed project activities at the Rowan University West Station will occur mostly in areas where previous disturbance has been documented, including the eastern side of the Chestnut Branch tributary crossing at Heston Road.
- Off-alignment activities at Cooper Street and South Evergreen Avenue, and Tylers Mill Road and Main Street will occur in areas of obvious modern disturbance that has more than likely removed any potential for the presence of intact precontact or historic resources.
- A section of the proposed line into Glassboro Borough west of Union Street is heavily disturbed due to ongoing construction, which has likely removed any potential for the presence of intact resources (Photograph 33).

Phase IB Survey Required

It is the opinion of A.D. Marble that 14 locations throughout the entire APE are considered moderately to highly sensitive for the presence of precontact and historical archaeological resources. Table 1 provides a list of areas and recommendations for investigation.

Table 1. Phase IB Recommendations by Test Area.

TA	Location	Size	Recommendations
1	Camden	0.40 acre	2 backhoe trenches and up to 10 STPs
2	Camden	6.43 acres	Monitoring, 40 backhoe trenches, and up to 50 STPs
3	Camden	1.6 acres	4 backhoe trenches and up to 10 STPs
4	Camden	0.4 acre	10 STPs
5	Westville Borough	1.6 acres	30 STPs
6	Woodbury Heights	6.71 acres	115 STPs
7	Wenonah Borough	1.7 acres	30 STPs
8	Mantua Township	5.5 acres	95 STPs
9	Mantua Township	0.43 acre	10 STPs
10	Mantua Township	13.0 acres	221 STPs
11	Glassboro Borough	0.29 acre	8 STPs
12	Glassboro Borough	2.3 acres	40 STP
13	Glassboro Borough	1.8 acres	34 STPs
14	Glassboro Borough	4.0 acres	68 STPs
Approximate Totals			**46 backhoe trenches and 731 STPs**

3.2 Proposed Phase IB Workplan

All archaeological studies undertaken in association with this project will be done in consultation with the NJ HPO. Prior to the onset of field studies, A.D. Marble will contact New Jersey One Call to mark out areas of underground utilities to be avoided during subsurface investigations.

A.D. Marble recommends the following methods to complete the Phase IB investigations: backhoe trenching, systematic survey, and monitoring during construction.

3.2.1 Backhoe Trenching

Backhoe trenching/stripping is an effective method for investigating potentially significant resources in an urban setting where a significant amount of demolition has taken place. Intact resources such as historic privies and basements, as well as backyard and alleyway ground surfaces, can survive below demolition rubble. Backhoe trenching is recommended in TAs 1, 2, and 3 due to their potential for resources buried under rubble.

Historic maps, particularly fire insurance maps, can be used to identify areas where these valuable resources may exist. A mechanical backhoe is used to excavate trenches at those locations. The overlying debris is removed in measured increments to expose the potential resources. In the event that intact ground surfaces are exposed, they can be subjected to systematic shovel testing to determine whether subsurface resources are present. This method of investigation has been widely successful throughout the Mid-Atlantic region.

3.2.2 Systematic Survey

STPs: It is anticipated that archaeological testing will be conducted through the excavation of STPs at the TAs identified in this report. The testing strategy will involve stratified sampling, as described in the state guidelines for archaeological investigations. Shovel test excavation in the APE will be undertaken at 15-meter intervals. Additional STPs may be excavated to bracket isolated finds and to better delimit boundaries of any sites encountered during the initial 15-meter testing. It is anticipated that a maximum of 731 STPs will be excavated for this project. All soils excavated from STPs will be screened through 0.25-inch hardware cloth. Each STP will be recorded for its stratigraphy and location. All identified cultural features will be mapped and photographed according to state guidelines.

Artifacts: All cultural material collected in the project area will be appropriately processed, inventoried, catalogued, and analyzed. The analysis will consider all potential sites within the project study limits. At present, the state museum is not accepting site assemblages. In the event

that a site is identified, A.D. Marble will make a concerted effort to locate a suitable repository for the site assemblage

3.2.3 Monitoring during Construction

Areas that are inaccessible during the Phase I survey and maintain at least a moderate potential for the presence of buried resources should be subjected to archaeological monitoring during construction. Archaeological monitoring is recommended at the northern end of TA 2 due to the inaccessibility of the I-676 road berm during the Phase IB investigations.

3.3 Summary

This addendum provides an opportunity to present proposed design changes and project conditions as of May 2018 and recommendations for Phase IB investigations throughout portions of the APE. Much of the project corridor will pass through areas with limited archaeological potential or would remain within the confines of the previously disturbed rail corridor. A.D. Marble has identified 14 locations where the potential for the presence of significant archaeological resources exists within the APE that require Phase IB survey. The 14 proposed locations include the PTAs recommended by A.D. Marble in the 2014 Phase IA report as well as areas recommended in a 2014 NJ HPO letter. As a result, A.D. Marble recommends a variety of Phase IB methods that should include backhoe trenching, systematic survey, and monitoring during construction as a means to determine the presence or absence of potentially significant resources within the 14 areas identified during the current sensitivity survey.

References

REFERENCES

A.D. Marble

2013 Phase IA Archaeological Survey Report, Glassboro-Camden Line Camden and Gloucester Counties, New Jersey. Report on file at HPO in Trenton, New Jersey.

2014 Phase IA Archaeological Addendum, Glassboro-Camden Line Camden and Gloucester Counties, New Jersey. Report on file at HPO in Trenton, New Jersey.

Interstate Commerce Commission (ICC) Valuation

1916 Interstate Commerce Commission Railroad Valuation Maps for the West Jersey & Seashore Railroad, June 30, 1916. Record Group 134, Bundle 1180, National Archives and Records Administration, College Park, Maryland.

Mounier, R. Alan

1976 An Archaeological Survey of Proposed Construction of I-676 (Alignment Scheme 1-W), Camden, New Jersey. Report prepared February 23, 1976 (CAM F 6 ID3951).

Sanborn Map Company

1891 Insurance Map of Camden, New Jersey. Sanborn Map Company, Pelham, New York (copy from Free Library of Philadelphia, Pennsylvania).

1906 Insurance Map of Camden, New Jersey. Sanborn Map Company, Pelham, New York (copy from Free Library of Philadelphia, Pennsylvania).

United States Department of Agriculture (USDA)

1962 *Soil Survey of Gloucester County, New Jersey.* Report by Marco Markley, Soil Conservation Service, United States Department of Agriculture in Cooperation with the College of Agriculture and the New Jersey Agricultural Experiment Station of Rutgers University. United States Department of Agriculture, Washington, D.C.

United States Geological Survey (USGS)

1891 Philadelphia, Pennsylvania, United States Geological Survey 15-minute quadrangle. http://historical.mytopo.com, accessed December 2013.

Appendix A

Qualifications of Researchers

Richard L. White, M.A., RPA
Archaeological Principal Investigator

Richard White is an archaeological principal investigator with 20 years of experience in the excavation of archaeological sites and laboratory work. He has served in a supervisory role for more than 13 years. His areas of expertise include OSHA standards, field excavations, and public outreach programs, in which he has extensive experience. He was in a supervisory field position for the Phase III Data Recovery excavations at the Independence Mall National Historic Park and the SugarHouse Casino Phase III Data Recovery Studies in Philadelphia. He has authored and coauthored more than 60 professional reports for submission to various state repositories including Pennsylvania, Virginia, Delaware, and New Jersey. At the request of individual clients, he has presented seven papers at professional conferences throughout the Middle Atlantic States.

Education

2007	M.A., Archaeology and Heritage, University of Leicester
1995	B.A., Anthropology, Bloomsburg University, Pennsylvania

Professional Experience

2008 to Present	A.D. Marble	*Principal Investigator*
2007 to 2008	A.D. Marble	*Field Director*
2003-2007	McCormick Taylor Inc.	*Field Director*
2002	Richard Grubb and Associates	*Field Technician*
2000-2002	Kise, Straw & Kolodner	*Project Archaeologist*
1997-2000	Skelly and Loy Inc.	*Field Director/ Field Technician*
1996	Kittatinny Archaeological Research	*Field Technician*
1995	Ecoscience Inc.	*Field Technician*

Training

2010	Pennsylvania Historical & Museum Commission Cultural Resources Essentials Workshop Certificate
2010	Pennsylvania Department of Transportation Cultural Resources Handbook for Business Partners Certificate
2006	OSHA Certification, Cocciardi and Assoc.

2006 Hazardous Waste Operations and Emergency Response Supervisor/Incident Command Training, Cocciardi and Assoc.

2004 "Section 106 Essentials," Advisory Council on Historic Preservation

Professional Affiliations

Register of Professional Archaeologists
Mid-Atlantic Archaeological Conference
Society for New Jersey Archaeology
Archaeological Society of Delaware
Eastern States Archaeological Federation
Society of Historical Archaeology

Andrew T. Colucci
Archaeological Field Technician

Andrew Colucci is an archaeological field technician with seven years of professional experience in the excavation of archaeological sites and laboratory work. As an archaeological field and laboratory technician, he has worked with multiple companies completing projects in Pennsylvania, New Jersey, Virginia, and Delaware on Phase IA, IB, II and III projects. These experiences included field excavations, laboratory analysis, and report writing. Mr. Colucci has also worked for New Jersey's State Historic Preservation Office reviewing permit applications and compliance archaeology reports. As a student, he participated in excavations in the Caribbean while managing international artifact collections.

Education

2015	M.A., Anthropology, Monmouth University
2014	B.A., Anthropology, Monmouth University

Professional Experience

2011 – Present	A.D. Marble	*Field/Laboratory Technician*
2015	New Jersey State Historic Preservation Office	*Historic Preservation Assistant*
2014	Richard Grubb and Associates	*Field Technician*
2014	Hunter Research	*Field Technician*

Research Experience

2013-2014	Monmouth University Geographic Information Systems Program	*GIS Technician*
2013-2014	Fort Charles Archaeological Project, Nevis & St. Kitts	*Field Crew Chief*

Training

2012	Fort Charles Archaeological Project, Nevis & St. Kitts	*Student*
2011	Monmouth University White Hill Manor Archaeological Field School	*Student*

Appendix B

NJ HPO Correspondence

Project #: 10-1360-2
HPO-L2013-039

State of New Jersey

MAIL CODE 501-04B
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES
HISTORIC PRESERVATION OFFICE
P.O. Box 420
Trenton, NJ 08625-0420
TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

December 3, 2013

Letitia A. Thompson
United States Department of Transportation
Federal Transit Administration
1716 Market Street, Suite 500
Philadelphia, Pennsylvania 19103

Dear Ms. Thompson:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the *Federal Register* on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing Consultation Comments for the following proposed undertaking:

Gloucester & Camden Counties, New Jersey
Glassboro-Camden Line
Phase IA Archaeological Survey
United States Department of Transportation
Federal Transit Administration

Thank you for providing the Historic Preservation Office (HPO) with the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological properties. The following comments are in reply to your request for Consultation Comments on the above-referenced project based upon the following archaeological report:

Blades, Brooke and Frank Dunsmore
November 15, 2013 *Phase IA Archaeological Survey Report, Glassboro-Camden Line, Camden and Gloucester Counties, New Jersey.* Prepared by A.D Marble & Company, Conshohocken, PA. Prepared for STV, Inc., Philadelphia, PA.

800.4 Identifying Historic Properties

The above-referenced project includes the construction of a proposed light commuter rail line in Gloucester and Camden counties in southern New Jersey, primarily along an existing Conrail right-of-way. The project site consists of an 18 miles stretch from Glassboro Borough

northward to Camden City, passing through the communities of Glassboro Borough, Pitman Borough, Mantua Township, Deptford Township, Wenonah Borough, Woodbury Heights Borough, Woodbury City, Westville Borough, Brooklawn Borough, Gloucester City, and Camden City. The Phase IA report includes valuable information to understand the previous historic and Native American land use within the project's area of potential effect (APE). The HPO agrees with the background research and the general sensitivity outlined in the report. However, due to the preliminary nature of project plans, it is not possible to fully assess the potential to encounter archaeological resources throughout the APE. *Therefore, the HPO cannot concur with the need or lack of need for additional archaeological survey within portions of the APE at this time based on the lack of detailed project plans. Once plans for the construction of the light rail are fully developed, the HPO will be better able to provide guidance on the need for any further survey.*

Additionally, the historic Woodbury and Camden Railroad/West Jersey Railroad itself, as well as the numerous historic districts and properties the line will pass through, will need to be assessed for above ground impacts to historic properties. If avoidance of direct or indirect effects on above-ground structures is not possible, intensive level architectural survey to evaluate eligibility of the structures for listing on the National Register of Historic Places and/or assessment of effects may be necessary.

Additional Comments

Thank you again for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological properties. The HPO looks forward to continued consultation on the potential for the above referenced undertaking to affect historic properties as more detailed plans are developed. Please reference HPO project number 10-1360, in any future calls, emails, submissions, or written correspondence to help expedite your review and response. If you have any questions, please do not hesitate to contact Vincent Maresca of my staff at (609-633-2395) with questions regarding archaeology or Caroline Charlese Scott (609-633-2396) with questions regarding historic architecture, historic districts, or historic landscapes.

Sincerely,

Daniel D. Saunders
Deputy State Historic
Preservation Officer

Cc: Keith Lynch, FTA
Nicole Minnichbach, US ACOE
Xavier Riva, A.D. Marble & Company
Brooke Blades, A.D. Marble & Company

DD/VM/DK

Project #: 10-1360-4,-5,-6
HPO-D2014-391

State of New Jersey

MAIL CODE 501-04B
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES
HISTORIC PRESERVATION OFFICE
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CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

April 25, 2014

Letitia A. Thompson
United States Department of Transportation
Federal Transit Administration
1716 Market Street, Suite 500
Philadelphia, Pennsylvania 19103

Dear Ms. Thompson:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the *Federal Register* on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing Consultation Comments for the following proposed undertaking:

Gloucester & Camden Counties, New Jersey
Glassboro-Camden Line
Phase IA Archaeological Survey &
Architectural Reconnaissance Survey
United States Department of Transportation
Federal Transit Administration

SUMMARY: Through this review sixteen (16) **previously identified** historic resources listed in or eligible for listing in the New Jersey and National Registers of Historic Places have been identified within the project's Area of Potential Effects (APE). Intensive Level Survey Forms will be completed for fourteen (14) potentially eligible resources. In addition, Phase IB archaeological survey is appropriate at twenty-one (21) locations.

Thank you for providing the Historic Preservation Office (HPO) with the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological properties. The comments below are in response to eh following cultural resource reports received at the HPO for review and comment:

Amisson, Elizabeth
December 5, 2013 *Historic Architectural Reconnaissance Survey Report, Glassboro-Camden*

Line Light Rail Project, Camden and Gloucester Counties, New Jersey
Prepared by A.D. Marble & Company, Conshohocken, PA
Prepared for STY, Inc., Philadelphia, PA

Blades, Brooke and Richard White
February 7, 2014 (Draft) *Phase IA Archaeological Addendum, Glassboro-Camden Line, Camden and Gloucester Counties, New Jersey.* Prepared by A.D Marble & Company, Conshohocken, PA. Prepared for STV, Inc., Philadelphia, PA.

And

Amission, Elizabeth
February 7, 2014 (Draft) *Historic Architectural Reconnaissance Survey Report, Addendum 1 (to Report dated December 5, 2013), Glassboro-Camden Line Light Rail Project, Camden and Gloucester Counties, New Jersey.* Prepared by A.D Marble & Company, Conshohocken, PA. Prepared for STV, Inc., Philadelphia, PA.

The proposed project consists of an 18 mile expansion of transit service, north to south through Camden City, Gloucester City, and Brooklawn Borough in Camden County; and Westville Borough, Woodbury City, Woodbury Heights Borough, Deptford Township, Wenonah Borough, Mantua Township, Pitman Borough and Glassboro Borough in Gloucester County. The project will restore service primarily along an existing Conrail Freight Corridor (the former West Jersey & Seashore Railroad, Pennsylvania Reading Seashore Lines) and at the northern end, share track with the existing Riverline from the Camden Waterfront to the Walter Rand Transportation Center Stations (WRTC). Fourteen (14) potential new stations are proposed as well as a Maintenance and Storage facility (Vehicle Maintenance Facility -VMF).

800.4 Identifying Historic Properties

I note that the Area of Potential Effects (APE) delineated in the December 2013 Historic Architectural Reconnaissance Report has been revised in the submitted Addendum dated February 7, 2014 due to project revisions. I concur with the findings of the submitted reports that the following previously identified properties either listed in or eligible for listing in the New Jersey (NJRHP) and National Registers of Historic Places (NRHP) are located within the boundaries of the Area of Potential Effects (APE) for the Glassboro-Camden Line project:

- **Noreg Village Historic District** (Brooklawn Borough, Camden County) SHPO Opinion 6/12/1996
- **Cooper Plaza Historic District** (Camden City, Camden County) SHPO Opinion 10/30/1991; Local Certified District 10/6/1983
- **Cooper Plaza Historic District Extension** (Camden City, Camden County) SHPO Opinion 11/7/1997
- **Jesse Starr School** (Camden City, Camden County) SHPO Opinion 10/19/1992
- **South Jersey Gas, Electric & Traction Company Building** (Camden City, Camden County); NJRHP 2004; NRHP 2005

- **South Camden Historic District** (Camden City, Camden County) NJRHP 8/14/1990; NRHP 9/28/1990
- **Glassboro Train Station** (Glassboro Borough, Gloucester County) Certificate of Eligibility (COE) 1/13/2011
- **Millville & Glassboro Railroad Historic district** (Glassboro Borough, Gloucester County to Millville City, Cumberland County) SHPO Opinion 1/4/2002
- **New Jersey State Teachers College at Glassboro Historic District**, Rowan University Campus (Glassboro Borough, Gloucester County) SHPO Opinion 6/6/2008
- **Jesse Chew House** (Mantua Township, Gloucester County) NJRHP 3/15/1972; NRHP 10/18/1972
- **Wenonah Historic District** (Wenonah Borough, Gloucester County) SHPO Opinion 4/1 0/1989
- **Wenonah Train Station** (Wenonah Borough, Gloucester County) SHPO Opinion 9/14/2005
- **Newton Historic District** (Woodbury City, Gloucester County) NJRHP 2/19/1988; eligible NRHP
- **Woodbury Historic District** (Woodbury City, Gloucester County) SHPO Opinion 7/13/1983; Local Certified District 7/13/1983
- **Green Era Historic District** (Woodbury City, Gloucester County), NJRHP 1988; eligible for NRHP as part of Woodbury Multiple Resource Area (MRA) 1988

Please add to the list of **previously identified** properties the following:

- **Brooklawn Traffic Circle** (Brooklawn Borough, Camden County) SHPO Opinion 8/29/11) (The opinion is appended to this letter)

I also concur that Intensive Level Survey Forms should be completed for the following resources potentially eligible for the NJ and NRHP:

- West Jersey & Seashore Railroad/Pennsylvania Reading Seashore Lines (Camden City to Glassboro Borough, Camden & Gloucester Counties
- 740 Chestnut Street/John G. Whittier School (Camden City, Camden County)
- Farr & Bailey Manufacturing Co. (later Congoleum Nairn Co.) Linoleum Plant, Camden City, Camden County
- Glassworks Residential District/South Glassboro, Glassboro Borough, Gloucester County
- 70 Sewell Street/Owens Illinois Glass company (former Owens Bottle Company) plant No.8, Glassboro Borough, Gloucester County
- 811 Market Street, Gloucester City, Camden County
- Monmouth St. Streetscape, Railroad Ave., to Johnson Blvd., Gloucester City, Camden County
- West Atlantic Avenue/Sewell Train Station, Mantua Township, Gloucester county
- 791 West Jersey Avenue, Woodbury Heights Borough, Gloucester County
- 7 North Evergreen Avenue, Woodbury City, Gloucester County (potentially contributing to the Green Era Historic District)

The HPO also believes that Intensive Level Survey Forms should be completed for the following potentially eligible resources:

- 85 and 86 Aberdeen Place, Woodbury City, Gloucester County

- 77 and 78 East Center Street, Woodbury City, Gloucester County
- 856 Main Street, Mantua Township, Gloucester County
- Tyler's Mill Road Bridge over Chestnut Branch, Mantua Township, Gloucester County
- 628-634 Kaighns Avenue (Victory Garage), Camden City, Camden County

I note that Table 3 of the submitted Historic Architectural Reconnaissance Survey Report indicates the Consultant's opinion that the Jesse Starr School, Camden City, Camden County (SHPO Opinion 10/19/1992) is no longer eligible for listing in the NJ and NRHP due to alterations. Please provide the HPO with information describing the extent of changes to the resource and how they impact the significance and eligibility of the Jesse Starr School. Additionally, the HPO would appreciate knowing whether any bridges will be modified as part of the proposed project. Railroad infrastructure, including bridges, should be considered when assessing effects to the corridor.

Archaeology

Upon review of the addendum Phase IA report referenced above, the HPO concurs with the following recommendations regarding the need for archaeological survey within the undertaking's area of potential effects (APE):

No additional archaeological survey is necessary at the following locations:

- Camden north of WRTC;
- Camden Ferry Avenue South to Newton Creek;
- Newton Creek into Gloucester;
- Gloucester Station Area;
- Gloucester to Little Timber Creek;
- Former North Woodbury Station (abandoned);
- Brooklawn to Big Tiber Creek and Westville;
- Woodbury Station area;
- Wenonah Station area;
- Mantua Creek crossing south of Wenonah;
- Mantua/Pitman Station along Tylers Mill Road; and
- Pitman Station area;

The Phase IA addendum report makes recommendation that the Glassboro Station and power house location (PTA 9) to be avoided for temporary laydown and use during implementation of the undertaking. *The HPO concurs with this assessment. If avoidance of these areas is not possible, Phase IB archaeological survey will be necessary (see below).*

Phase IB archaeological Survey is Appropriate at the following Locations:

- PTA 1 (GPR and backhoe testing);
- PTA 2N;
- PYA 2S (GPR and backhoe testing);
- PTA 3;

- PTA 4;
- PTA 5;
- PTA 6;
- PTA 7;
- PTA 8;
- PTA 9; and
- PTA 10.

In addition to the report recommendations above, Phase IB archaeological survey is also appropriate at the following locations:

- Camden, Wright Street south to Kaighns Avenue;
- Red Bank Avenue Station in Woodbury;
- Woodbury Heights Station;
- Monongahela Brook crossing north of Wenonah (once construction methods identified);
- Eastern undeveloped portion of the Sewell Street VMF;
- Chestnut Branch tributary crossing at Heston Road [based on HPO collector information];
- Rowan University West Station between Heston and Mullica Hill Roads [based on HPO collector information];
- PTA 9: Proposed rail line into the center of Glassboro [proposed Glassboro Station];
- Off-Alignment at Cooper Street and Evergreen Avenue; and
- Off-Alignment at Tylers Mill Road and Main Street.

The above referenced addendum Phase IA archaeological report states that areas PTA 1, PTA 3, and PTA 9 are archaeologically sensitive but if any soil remediation activities are necessary, no archaeological survey is recommended. Please be aware, it is important to understand if project activities such as railroad construction and remediation activities necessary for the undertaking have the potential to adversely affect historic properties within the APE. Therefore, additional consultation between the FTA, HPO and consulting parties is recommended for the coordination of remediation actions as part of the analysis of the effects of the larger undertaking on historic properties within the APE.

In addition, based on submitted GIS plans and report text, it the construction plans appear to be preliminary and conceptual. Therefore, it is unclear if temporary laydown and staging areas have yet been identified in light of the addendum Phase IA report recommendations for the former Glassboro Railroad Avenue Station. If temporary works areas have not been included within the project's APE for Phase I archaeological assessment, additional consultation regarding project impacts on historic properties will need to be developed in the future once these areas are identified.

Phase IA Report Editorial Comments

Site conditions, resources identified, and report recommendations would have been greatly enhanced with site photographs.

The addendum report did not include a section discussing the Mantua Creek crossing south of Wenonah discussed in the conclusions list for areas not requiring archaeological survey.

The addendum Phase IA report makes reference to geomorphological investigations (e.g., Sewell Station area [PTA 6; P. 14]) but this information was not included in the report or provide as an appendix for the HPO for more fully understanding your project assessment and informing HPO comment.

Please provide the HPO a copy of the above referenced reports on a CD in PDF format at your earliest convenience for our electronic library.

Additional Comments

Thank you again for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological properties. The HPO looks forward to receiving ah list of Consulting and Interested Parties, along with a Public Involvement Plan as part of continued consultation for this undertaking. Additionally, the HPO looks forward to being provided the opportunity to comment on the requested surveys discussed above. Please reference HPO project number 10-1360, in any future calls, emails, submissions, or written correspondence to help expedite your review and response. If you have any questions, please do not hesitate to contact Vincent Maresca of my staff at (609-633-2395) with questions regarding archaeology or Patty Chrisman (609-984-0850) with questions regarding historic architecture, historic districts, or historic landscapes.

Sincerely,

Daniel D. Saunders
Deputy State Historic
Preservation Officer

attachment

DDS/PC/VM

c: Keith Lynch, FTA
Nicole Minnichbach, USACE
Xavier Riva, A.D. Marble & Company
Brooke Blades, A.D. Marble & Company

Appendix C

2013 Geomorphological Study

Geo-Sci Consultants, LLC
4410 Van Buren Street, University Park, Maryland 20782
tel: 301 277 3731 **fax: 301 277 2147**

GEOARCHAEOLOGICAL INTERPRETATIONS OF SELECTED LOCATIONS ALONG THE GLASSBORO-CAMDEN LINE, NEW JERSEY

Submitted to
A.D. Marble Company, Inc.

By
Daniel P. Wagner, Ph.D.
Pedologist

October 21, 2013

Introduction

This report discusses geoarchaeological interpretations of soils and landscapes in the vicinities of six selected locations along the Glassboro-Camden Line in southwest New Jersey. Locations were chosen primarily on the basis of geomorphic attributes that may have been of special appeal to prehistoric populations. In this regard proximity to major streams was a particular consideration. In contrast to positive attributes, however, was also a factor employed to eliminate some locations from consideration. This was apparent degrees of modern disturbances or other landscape modifications which have, of course, affected many locations in this part of New Jersey.

Evaluation techniques included interpretations of historic and modern map data as well as field investigations of those locations where intact soils and landscapes seemed possible. Field efforts were undertaken on October 9, 2013 and entailed pedestrian traversal of landscapes in and near the examined areas, together with soil examinations by means of hand auger borings. Any soil profiles described in detail were done so in accordance with standard pedological techniques and nomenclature for the field description of soils.

Physiology and Geology

The study location is within the Coastal Plain Physiographic Province. This largest of New Jersey's provinces spans over half of the State and encompasses all of the region southeast of a line roughly running between Perth Amboy in the north and Trenton in the south. The Coastal Plain province is further divided into several sections, and the project corridor spans both the Inner Coastal Plain section near the western limit of the province as well as the western portion of the Outer Coastal Plain section. Most of the uplands in both sections are formed in sediments of considerable antiquity ranging from Cretaceous in the western section near the Delaware River to Tertiary across a broader southeastern region. However, in lower elevational, shoreline settings such as those along principal tributaries to the Delaware River, deposits are mostly of Quaternary origins more directly associated with existing waterways or their Late Pleistocene precursors. Such deposits can be highly variable in composition, but most are typically sandy to gravelly. Additionally, it is not uncommon for older Quaternary deposits to occur as relatively thin surface mantles atop landforms composed primarily of much more ancient Tertiary or Cretaceous sediments.

Although not of the extreme antiquity of higher more interior uplands, most Quaternary upland deposits are nevertheless principally of Pleistocene origins that usually predate the first human presence within the region. Accordingly, near-surface restrictions apply for the great majority of cultural resources, and the main natural mechanisms for deeper occurrences are those of bioturbation. More coarse-textured soils, which are prevalent throughout the region, tend to have thicker biomantle zones, and the introduction of artifacts into upper subsoil levels as much as two feet deep is not uncommon.

Lowland Quaternary deposits and landforms of the Coastal Plain tend to be related to Pleistocene glacial cycles in which fluctuations in sea level and climate forced correlative responses in erosional and sedimentation processes. Although all of the major stream systems along the project corridor are now tidally influenced, estuarine conditions brought on by marine transgression during the Holocene have not always characterized these Coastal Plain settings. For much of the time since the Pleistocene the region was simply within the alluvial watershed of a freshwater Delaware River, and streams were deeply incised to levels controlled by previously lower sea stands.

Perhaps as much as 250 feet lower than present at the time of the Last Glacial Maximum[1], it was not until almost the middle of the Holocene before the rising sea established brackish conditions in this portion of the Delaware Valley. With this change flow regimes shifted from free flowing, higher energy systems to sluggish ones in which estuarine sedimentation progressively filled the previous valleys. Other consequences would also have ensued during the course of this tidal transgression. Extensive land areas adjacent to rivers were inundated or destroyed, and shorelines migrated landward as rivers expanded in breadth. Also, as is common along virtually all waterway shorelines near major urban areas of the East Coast, some amount of channel dredging possibly accompanied by artificial filling of former marshes and even open water is a possibility. Conversely, silting in of waterways due to greatly accelerated rates of historic erosion of the uplands is also usually in play.

Soils and Geomorphology

Six locations were ultimately chosen for varying degrees of scrutiny. For the three northern locations where the rail line crosses major stream valleys, evaluations of map data were sufficient to develop geoarchaeological assessments. Others entailed both map interpretations as well as direct field examinations. The particulars of each location are separately addressed below and are arranged in a north to south progression.

Maintenance Facility Site 11

This area located at the crossing of Newton Creek has been heavily modified. Not only is there now a HAZMAT issue on the southeast side of the creek, but early topographic mapping in 1848 and 1891 indicate marshland along most shorelines. As suggested by street layouts shown in 1891 on the southwest side, this area may have been more stable, inhabitable terrain; however the elevation was below 10 ft, and even then the land could well have been the product of early filling. In any event this location is now well removed from the modern shoreline. Whereas the breadth of Newton Creek where it was crossed by the rail line in 1891 was some 1400 ft in length, today it is only about 400 ft. This indicates a history of extensive filling that not only produced broad swaths of made land in areas of former open water, but

[1] Fletcher, C.H. 1988. Holocene sea level history and neotectonics of the United States Mid-Atlantic region: Applications and corrections. *Journal of Geology* 96: 323-337.

also very likely entailed deep filling of marshes and other low-lying positions. It is presently difficult to estimate how the made land is distributed on either side of the creek, but presumably several hundred feet occur on both sides. The Soil Survey of Gloucester County supports this assessment. All land within hundreds of feet of the creek is identified as Urban Land consisting either of buildings and pavement or introduced unnatural materials.

Little Timber Creek

As with positions around Newton Creek, widespread land disturbance has also occurred around Little Timber Creek. Based on the 1891 topographic map two principal landscape types appear to have originally been present. These include a broad marsh to the north and an abruptly rising upland to the south. Extensive filling has greatly altered both the marsh and creek. From the combined 700-ft breadth of water and marsh at that time, less than 100 feet of water remains today, although marsh and a diked water impoundment are respectively present in the northwest and northeast quadrants. Less filling probably occurred south of the creek, but roughly 200 ft of made land appears to extend outward from the original upland position where the 1891 map indicates elevations were between 10 and 20 ft. This upland area are is, however, heavily built upon, and given the usual Pleistocene antiquity typically assigned to regional upland landscapes, severe disturbances to the upland surface translate to comparable disturbances to any cultural material that may once have been present.

The area in the vicinity of the crossing of Little Timber Creek has virtually no potential for containing intact prehistoric cultural deposits. To the north of the creek originally poorly drained marshy conditions and extensive filling remove any prospects for a cultural resource potential. The upland area some 200 ft south of the modern shoreline has been so extensively disturbed by house and road construction that little if any potential remains here as well.

Big Timber Creek

Big Timber Creek meanders through a valley originally some 2,000 ft wide. During the Late Pleistocene and through the Early Holocene the creek was no doubt deeply incised, and probably was flanked by inhabitable alluvial landforms. With marine transgression, however, the valley would have filled with estuarine sediments that built at a rate in step with sea level rise. Not surprisingly, historic mapping shows low-lying marshy terrain on both sides of the creek. This lowland has been variably filled, possibly beginning as early as colonial time. Even today unfilled positions within the valley are not inhabited, and after about the middle of the Holocene there would not have existed stable, well drained ground suitable for occupation until the arrival of Europeans and the initiation of intentional filling.

Mantua Boulevard Station Parking Area

This several-acre site occupies an upland interfluve position between Mantua Creek and Chestnut Branch. More closely situated to Mantua Creek and lying at an elevation of nearly 70 ft, the landscape looms above the nearly tidal creek. Presently cultivated, it also likely has a prolonged history of agriculture; but except for the effects of plowing it has probably otherwise changed very little since the Late Pleistocene. Hence, as would be typical for most of the regional uplands any cultural resources present should be restricted to near-surface levels.

Pedestrian survey revealed the landscape to be uniform throughout the area, with the surface characterized by a sandy texture and also containing a few gravels. A soil examination (Table 1) identified a well drained sandy soil consistent with the Freehold soil series that is mapped at the location in the Soil Survey of Gloucester County. This soil and other similar sandy soils are regionally common, and with such textures upper bioturbational zones potentially containing cultural materials are often relatively thick. At this location, however, the zone is not so thick and encompasses the plow zone (Ap) and underlying upper subsoil horizon (E) extending to the depth of 14 in. Beneath this is a dense fragipan (Btx) horizon that would be highly unlikely to contain any artifacts. Such a subsoil horizon is consistent with the presumed Pleistocene age of the landscape, as both its fragic (x) and argillic (t) properties both signal an advanced stage in soil development.

Table 1. Soil profile description for the Mantua Boulevard Station parking area.

Horizon	**Depth (in)**	**Properties**
Ap	0-7	Dark brown (10YR 3/3) loamy sand; very friable consistence
E	7-14	Dark yellowish brown (10YR 3/4) loamy sand; very friable consistence
Btx	14-24+	Strong brown (7.5YR 4/6) sandy loam; brittle; firm consistence

Other comments: Upland interfluve position; 3% slope; probably moderately well drained; minor gravel, mostly small pebbles throughout; auger refusal on gravel at 24 in; described 10/9/13

Mantua/Pitman Station Parking Area

This parking location also occupies an upland interfluve position, in this instance between the headwaters of two small tributaries to Chestnut Branch. Pedestrian survey identified two principal landscape settings consisting of mostly disturbed higher terrain over roughly the northern half of the property, and a poorly drained position to the south. Some disturbance has also occurred within the poorly drained area adjacent to the rail line where it appears that some fill material from the excavated rail grade may have been disposed of. The remainder of the lower area is distributed between wooded and open field settings, both of which display surface indications of severely impeded drainage. These include very dark coloration of the surface soil and the presence of hydrophytic vegetation such as rushes, sedges and ferns. Even in a wholly undisturbed state this position would have been too poorly drained for occupation and is thus highly unlikely to contain any prehistoric cultural resources.

The more favorably drained northern terrain is situated about 4 to 5 ft higher than the wetland, but it is nearly everywhere severely disturbed. Surface contours are suggestive of

extensive earth movement, some of which was even ongoing at the time of investigation. A boring at a location where surface disturbance was less overt encountered only earthen and gravelly fill materials to refusal on gravel at the depth of 4 ft. There may be some isolated remnants of intact soils of unpredictable distribution, but for the most part disturbances have been thorough enough that little if any prospects remain for intact cultural resources.

Maintenance Facility Site 2 (south of Glassboro along Buck Road)

This southernmost of the examined locations is also the only one where rather than to the north, surface drainage is directed southward toward Delaware Bay mainly via tributaries to the Maurice River. The headwater of one such tributary closely approaches the west side of the location. As with the previous location this much larger area spans both well drained upland terrain as well as a wetland. The wetland is by far the greater component of the area and comprises about the central two thirds. Even to the south of this the drainage appears to be at least somewhat limiting for occupation, and the only portion of the area likely to have no drainage restrictions for human occupation constitutes about the northern fifth. This corresponds to the yard areas of a residence as well as mixed grassy and wooded areas north and east of the residence. Some locations here have likely suffered limited disturbances, but most surfaces appear to be largely intact. Accordingly, the usual archaeological interpretation for the regional uplands applies, and there could be some potential for prehistoric cultural resources in near-surface levels. In fact, given the proximity to the large wetland with its spectrum of floral and faunal resources, the potential could be quite good.

Appendix 7-C: Intensive Level Forms

A.D. MARBLE
environmental·cultural·engineering

March 11, 2020

Ms. Katherine J. Marcopul
Administrator and Deputy State Historic Preservation Officer
New Jersey Department of Environmental Protection
Historic Preservation Office
501 E. State Street
Trenton, NJ 08609

Re: HPO Project # 10-1360
Glassboro-Camden Line Light Rail Project
Camden and Gloucester Counties, Multiple Municipalities

Dear Ms. Marcopul:

We are requesting technical review assistance for 17 intensive-level historic architecture studies associated with the Glassboro-Camden Line Light Rail Project. The review is required per the state permits needed for the project.

NJ SHPO Intensive-Level Survey Forms for review and concurrence are included for the following 17 individual properties:

- Jesse W. Starr School, 823 Pine Street, Camden
- John G. Whittier School, 740 Chestnut Street, Camden
- Owens Illinois Glass Company, 70 Sewell Street, Glassboro
- J.R. Quigley Company Office and Store, 811 Market Street, Gloucester
- Sewell Train Station, 782 Atlantic Avenue, Sewell (Mantua Township)
- 85 Aberdeen Place, Woodbury
- 86 Aberdeen Place, Woodbury
- 77 East Centre Street, Woodbury
- 78 East Centre Street, Woodbury
- 856 Main Street, Sewell (Mantua Township)
- Tyler's Mill Road Bridge over Chestnut Branch, Mantua Township
- Victory Garage, 628-634 Kaighn Avenue, Camden
- 7 N Evergreen, Woodbury
- 400 North Woodbury Road, Pitman
- 806 Market Street, Gloucester
- Union Cemetery, Powell Street, Gloucester
- Presbyterian Church at Woodbury Cemetery, 800 N. Broad Street, Woodbury

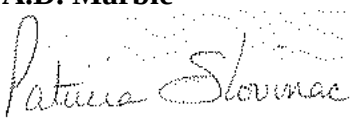
One property that had been evaluated as potentially eligible during the December 2013 Reconnaissance Survey, Farr & Bailey Manufacturing Co., 726 Kaighn Avenue,

Camden, was demolished between 2014 and 2018; photographs of the now-vacant site are attached to this letter.

In addition, we request your review and approval of the list of county/municipal personnel and local historical societies to be consulted as part of the public involvement requirements of the EO215 and permitting process. The list is included herein.

If you have any questions or require additional information, please contact A.D. Marble architectural historian, Patricia Slovinac, at 717-971-1905.

Sincerely,
A.D. Marble



Patricia Slovinac
Senior Architectural Historian

cc: Cade Hobbick, STV
John Manzoni, STV

Enclosures:
NJ SHPO Survey Forms (as detailed above)
Photographs of 726 Kaighn Avenue, Camden
Contact List for Public Involvement