SECTION 5.0 ARCHAEOLOGICAL SURVEY

5.1 Assessment of Archaeological Resources Sensitivity

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

Prehistoric Archaeological Sensitivity

Archaeological evidence indicates that the Upper Coastal Plain was occupied from the Paleo-Indian period to the present (Custer 1984, 1989, 1996; Custer and Wallace 1982). The densest period of occupation may have been the Woodland I period, but sites and find spots are known from the Paleo-Indian, Archaic and Woodland II periods. Available data suggests that the majority of prehistoric sites in the Upper Coastal Plain consist of temporary seasonal procurement sites usually situated in close proximity to water with larger sites found near the confluences of higher order streams especially in zones with multiple resources readily available.

Prehistoric sites in northern Delaware tend to be located on well-drained uplands (i.e. terraces, ridges, knolls, etc.) in proximity to streams or wetlands. Sites of greater density and complexity are located within areas of high resource yield, such as confluences of major streams, and smaller procurement sites are located in headwaters or in specialized environments, although there is considerable complexity within this simplistic description (Custer 1984, 1996; Custer and Wallace 1982). Based on this settlement model, the APE has a high potential for the presence of prehistoric resources. Given its proximity to the Delaware River, sites likely to be present in the APE are procurement sites and small scale habitation sites in uplands as well as more complex sites located closer to the Delaware River.

Background research indicates that one prehistoric site, the Dobbinsville Site (7NC-E-150/CRS# N-14022), is located approximately one mile west of the APE, in a similar upland setting. That site consists of an undated procurement site containing a hammerstone and chert, quartz and jasper debitage. Portions of the APE are situated on upland, relatively well-drained landforms near an unnamed tributary of the Delaware River and the Delaware River itself. Some disturbances associated with road construction, utilities and other development were noted. Based on the

presence of a known site nearby, the topographic setting, and distance to a major drainage, the undisturbed relatively level portions of the APE have a high sensitivity for prehistoric resources, ranging from specialized to short-term and seasonal procurement camps.

Historic Archaeological Sensitivity

The eighteenth-century Stonum country estate historic property is located within the APE, and reflects the agricultural character of early settlement on New Castle's periphery. Stonum, a National Historic Landmark, is included in the Washington Street segment of the APE. From the early nineteenth to twentieth centuries, as reflected by historic maps, both residential and industrial structures have existed adjacent to the APE since at least 1805 (see Figures 4.1-4.13). Along South Street, one residential dwelling as well as a tannery and a barkhouse are depicted in 1805 (see Figure 4.1). Both of these properties have been redeveloped multiple times since this period. While the APE remained a part of the industrial periphery of New Castle, steady development is evident along the APE throughout the historic period. The development of the New Castle & Frenchtown Railroad brought industries that included the New Castle Manufacturing Company (later Hicks Steam Engine Works and Tasker Iron Company), the New Castle Woolen Mills (later part of the Wilmington Fibre Specialty Company), and Triton Cotton Mills (later Deemer Steel Casting Company). All of these industrial facilities have been demolished, and the former location of the New Castle Woolen Mills is the only location that has not been redeveloped. Portions of the original alignment of the New Castle & Frenchtown Railroad bisect the APE along West Seventh Street and South Street. New Castle's archaeological preservation plan (Heite and Heite 1989) notes that the railroad alignment has the potential to provide information on early experiments in railroad construction. The South Street portion of the APE is included within the New Castle Historic District (see Figure 1.1). Historic archaeological resources that could contribute to the significance of Stonum or the New Castle Historic District may be present within the APE.

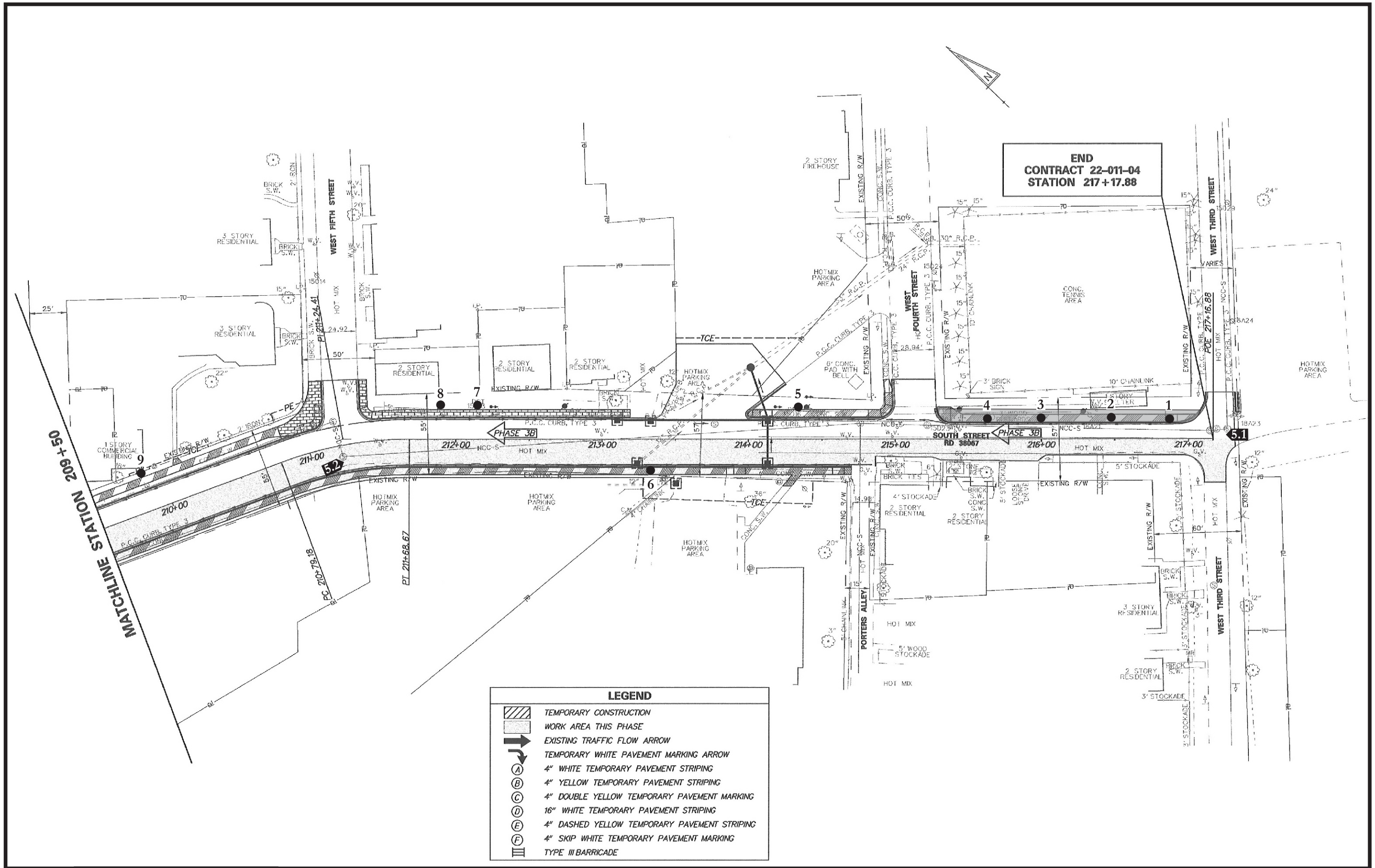
5.2 Research Design and Methods

A Phase IA historic architectural survey was completed in May 2010 (see Richard Grubb & Associates, Inc. 2010). Prior to the initiation of archaeological fieldwork, background research, consisting of an examination of archaeological site files, cultural resources surveys, and relevant state-wide historic contexts, was conducted at the DESHPO. Consultation with David Clarke was conducted following the completion of background research to finalize the testing strategy. The segments within the APE identified for subsurface testing, their accessibility for subsurface testing, the historic uses of the segment, the presence of extant cultural resources, and the shovel test pit numbers for each segment are summarized in Table 5.1.

Table 5.1: Summary of Testing Strategy and Potential for Archaeological Resources.

Street/Segment	Historic Period Uses	Extant Resource?	Testable Areas	STP #s
South Street, East sidewalk between W. Third St. and W. Fifth St.	Late 18th/Early 19th century tannery; 19th century residential; railroad sidings	New Castle Historic District (CRS# N-349) [no contributing elements within LOC]	Y	STP 1 – STP 5; STP 7 – STP 8
South Street, West sidewalk between W. Third St. and W. Fifth St.	19th century residential and industrial/Hicks Steam Engine Works, later Tasker Iron Company	New Castle Historic District (CRS# N-349) Contributing Element: Booker T. Washington School/ 322 South Street (CRS# N349.338)	Y	STP 6
South Street, East sidewalk between W. Fifth St. and W. Seventh St.	Lesley-Travers Estate; residential	New Castle Historic District (CRS# N-349) Contributing Element: James T. Eliason House/80 W. Fifth St. (CRS# N-349.334); Lesley-Travers Mansion Wall and Gate (CRS# N-385)	Y	STP 9 – STP 13
South Street, West sidewalk between W. Fifth St. and W. Seventh St.	Rural residential	N/A	Y	STP 16 – STP 18
West Seventh Street, South sidewalk between South St and Washington St.	Rural residential	N/A	Y	STP 19 – STP 22
West Seventh Street, North sidewalk between South St and Washington St.	Rural residential	N/A	Y	STP 23 – STP 25
Washington Street, East sidewalk between W. Seventh St. and W. Tenth St.	Industrial; workers housing	N/A	N	N/A
Washington Street, West sidewalk between W. Seventh St. and W. Tenth St.	Industrial; Agricultural	Stonum NHL (CRS# N-362)	Y	STP 26 – STP 36

Archaeological fieldwork consisted of a visual reconnaissance of the APE and subsurface testing. Subsurface archaeological testing consisted of the excavation of 35 Shovel test pits (STPs) spaced at 10-meter (32.8 feet) intervals where ground surface was accessible. Areas of the APE where extensive open areas were not present were investigated through judgmentally placed STPs. Shovel test pits measured 50 cm (19.7 inches) in diameter and were hand excavated using round nosed shovels. The STPs were excavated in natural strata to a minimum of 20 cm (8 inches) into culturally sterile subsoil. In fill soils, STPs were extended to 100 cm where possible or to natural soil horizons (see Appendix C). In some cases, STPs were stopped when concrete or water was encountered. All STP locations were plotted on project base maps, as were locations of representative photographs (see Figure 5.1a-e). Archaeological testing was not conducted in disturbed or paved areas.

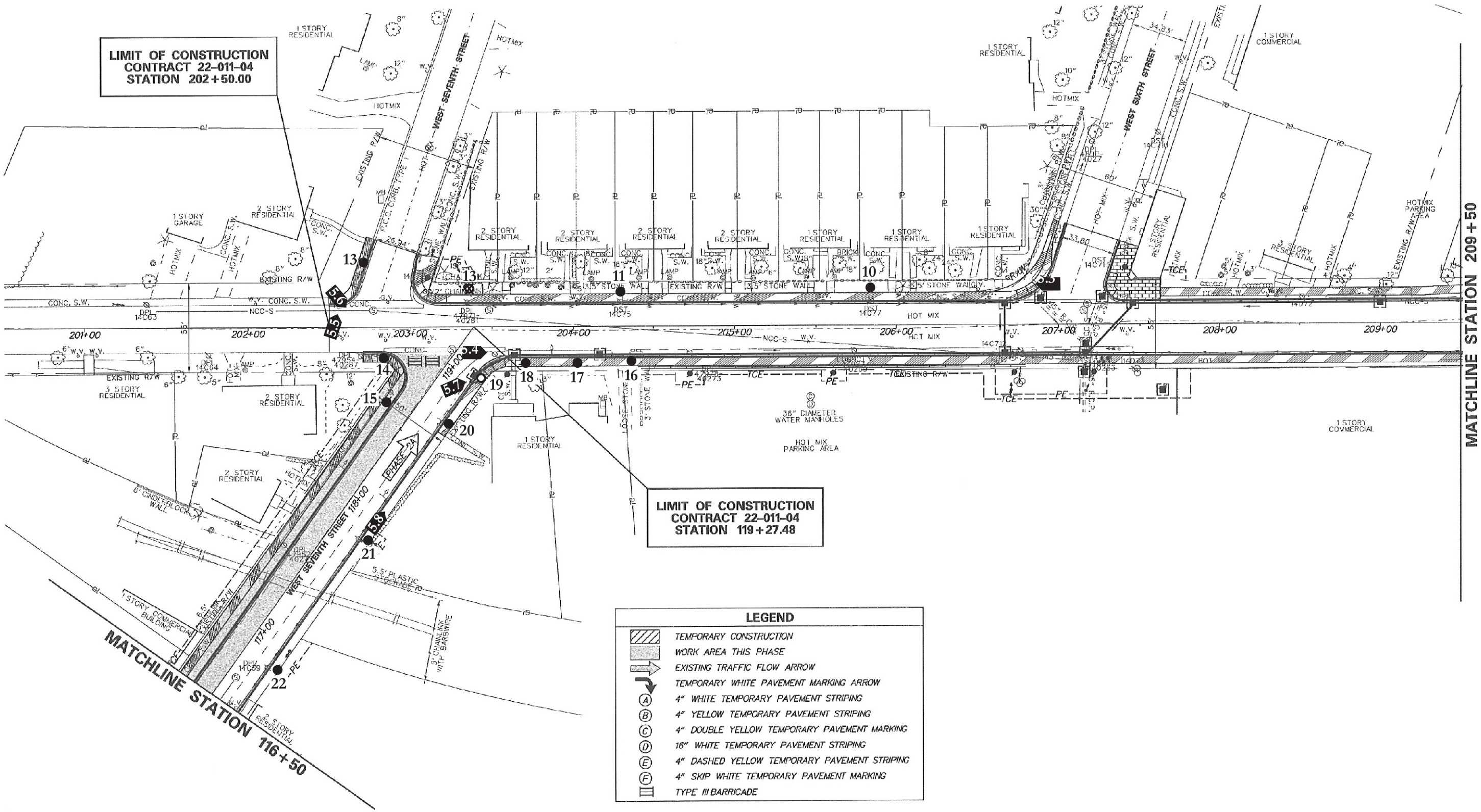


Key:
- ● - STP - Historic Cultural Material
- ○ - STP - No Cultural Material
- X.X - Photo Location and Direction

Figure 5.1a:

Construction, Phasing, M.O.T. and Erosion Control Plan showing STP and photo locations.

Feet
0 60



LEGEND

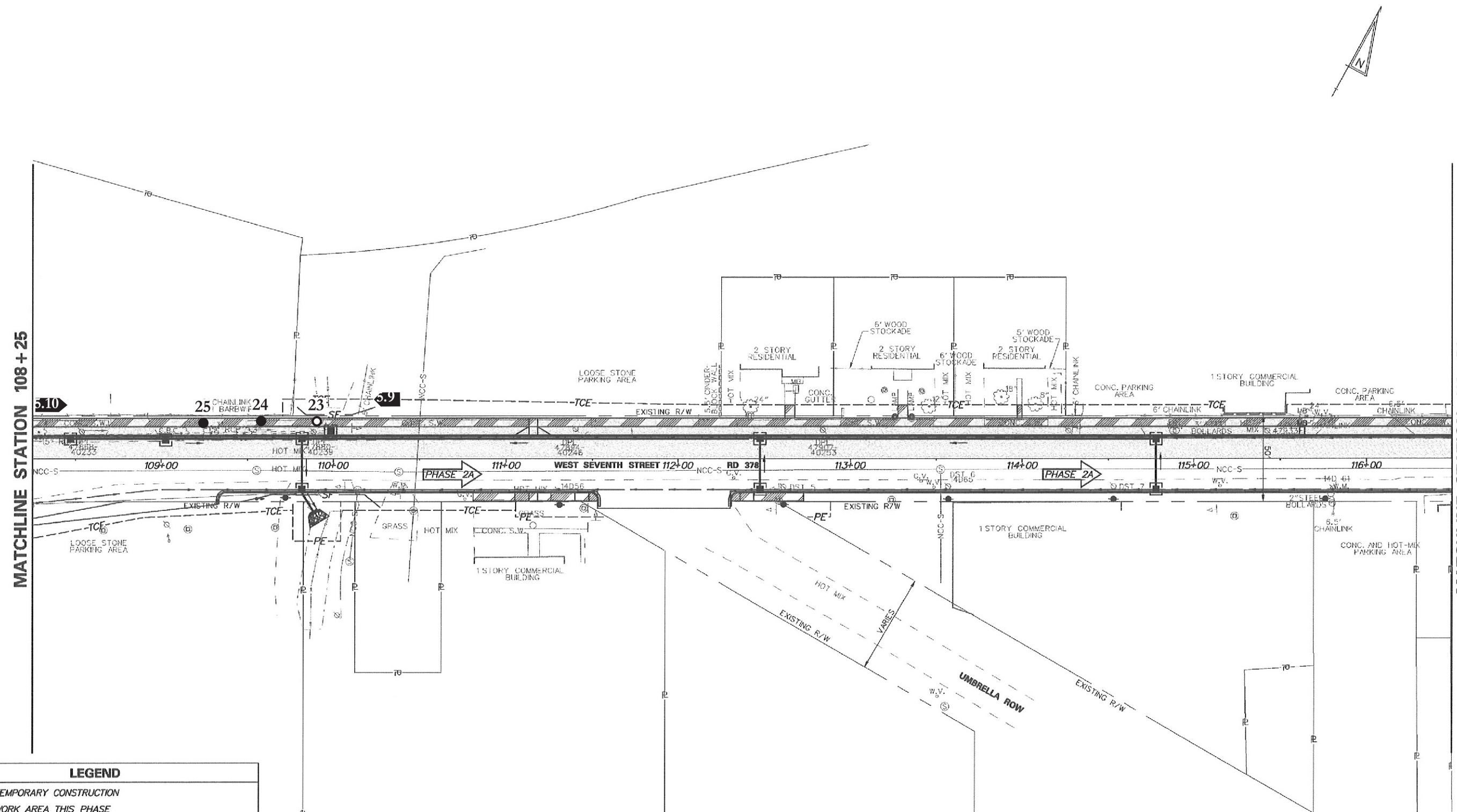
- TEMPORARY CONSTRUCTION
- WORK AREA THIS PHASE
- EXISTING TRAFFIC FLOW ARROW
- TEMPORARY WHITE PAVEMENT MARKING ARROW
- (A) 4" WHITE TEMPORARY PAVEMENT STRIPING
- (B) 4" YELLOW TEMPORARY PAVEMENT STRIPING
- (C) 4" DOUBLE YELLOW TEMPORARY PAVEMENT MARKING
- (D) 16" WHITE TEMPORARY PAVEMENT STRIPING
- (E) 4" DASHED YELLOW TEMPORARY PAVEMENT STRIPING
- (F) 4" SKIP WHITE TEMPORARY PAVEMENT MARKING
- TYPE III BARRICADE

Key:
- ● - STP - Historic Cultural Material
- ○ - STP - No Cultural Material
- ⊗ - STP - Not Excavated
- X.X - Photo Location and Direction

Figure 5.1b:

Construction, Phasing, M.O.T. and Erosion Control Plan showing STP and photo locations.

Feet
0 60



Key:
- ● - STP - Historic Cultural Material
- ○ - STP - No Cultural Material
- X.X - Photo Location and Direction

Figure 5.1c:

Construction, Phasing, M.O.T. and Erosion Control Plan showing STP and photo locations.

Feet
0 60

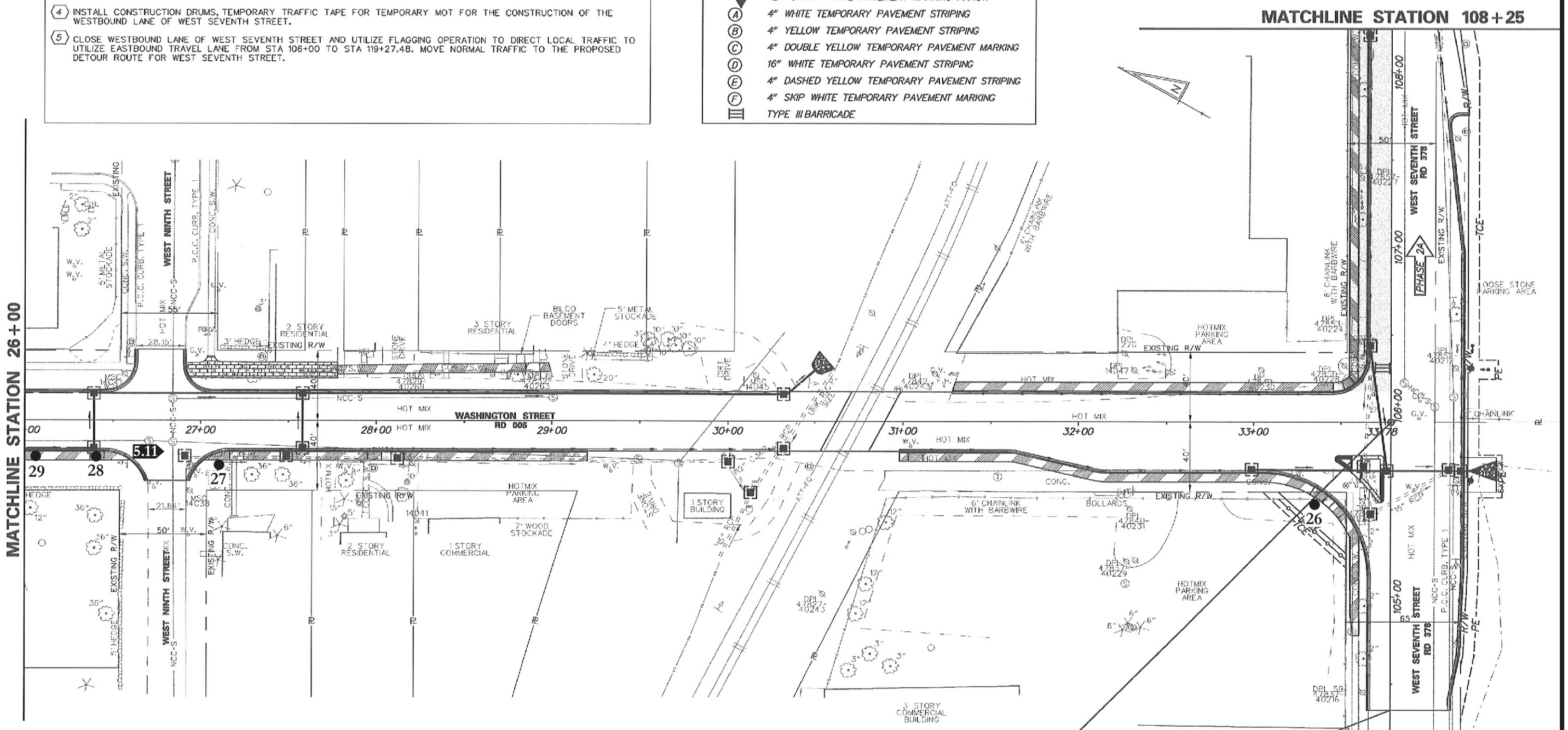
CONCEPTUAL CONSTRUCTION PHASING NOTES

PHASE 2A

1. INSTALL MAINTENANCE OF TRAFFIC SIGNAGE.
2. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN.
3. INSTALL SIGNS FOR TRAFFIC DETOUR, KEEP COVERED UNTIL NEEDED.
4. INSTALL CONSTRUCTION DRUMS, TEMPORARY TRAFFIC TAPE FOR TEMPORARY MOT FOR THE CONSTRUCTION OF THE WESTBOUND LANE OF WEST SEVENTH STREET.
5. CLOSE WESTBOUND LANE OF WEST SEVENTH STREET AND UTILIZE FLAGGING OPERATION TO DIRECT LOCAL TRAFFIC TO UTILIZE EASTBOUND TRAVEL LANE FROM STA 106+00 TO STA 119+27.48. MOVE NORMAL TRAFFIC TO THE PROPOSED DETOUR ROUTE FOR WEST SEVENTH STREET.

LEGEND

- TEMPORARY CONSTRUCTION
- WORK AREA THIS PHASE
- EXISTING TRAFFIC FLOW ARROW
- TEMPORARY WHITE PAVEMENT MARKING ARROW
- (A) 4" WHITE TEMPORARY PAVEMENT STRIPING
- (B) 4" YELLOW TEMPORARY PAVEMENT STRIPING
- (C) 4" DOUBLE YELLOW TEMPORARY PAVEMENT MARKING
- (D) 16" WHITE TEMPORARY PAVEMENT STRIPING
- (E) 4" DASHED YELLOW TEMPORARY PAVEMENT STRIPING
- (F) 4" SKIP WHITE TEMPORARY PAVEMENT MARKING
- TYPE III BARRICADE



CONCEPTUAL CONSTRUCTION PHASING NOTES

6. INSTALL PROPOSED DRAINAGE FOR WESTBOUND WEST SEVENTH STREET.
7. ADJUST/RELOCATE UTILITIES AS REQUIRED.
8. INSTALL TEMPORARY DART SIGN FOR PEDESTRIANS TO WAIT AT TEMPORARY LOCATION ON EASTBOUND SIDE OF ROAD AT STA 112+58.
9. CONSTRUCT 5' SIDEWALK AND WESTBOUND WEST SEVENTH STREET.
10. PLACE PROPOSED HOT-MIX SECTION PATCHING AROUND THE PROPOSED ISLANDS UP TO THE TOP OF THE TYPE B HOT-MIX LAYER.
11. STABILIZE ALL DISTURBED AREAS WITHIN THE WORK AREA WITH TOPSOIL, SEED AND MULCH.

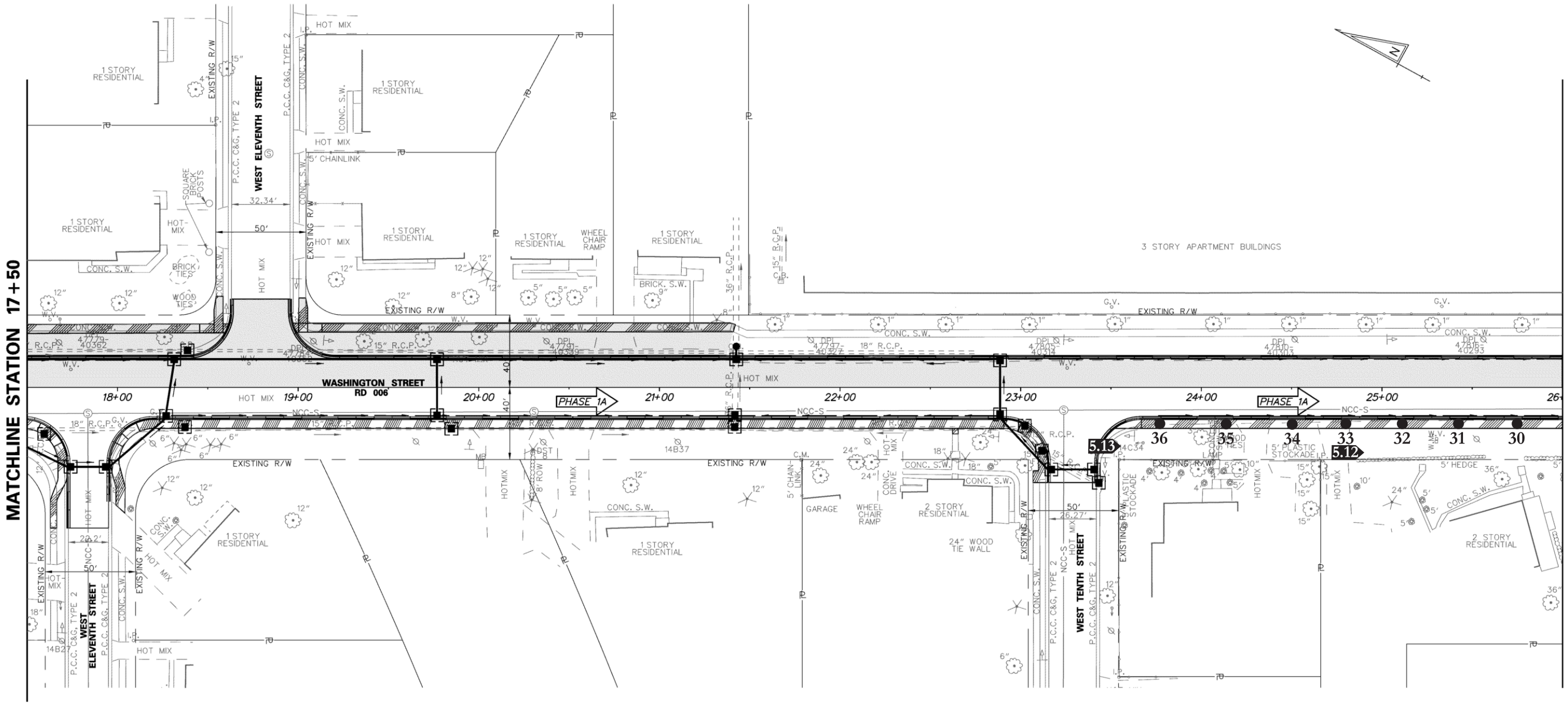
RGA

Key:
- ● - STP - Historic Cultural Material
- ○ - STP - No Cultural Material
- ⊠ - Not Excavated
- x.x - Photo Location and Direction

Figure 5.1d:

Construction, Phasing, M.O.T. and Erosion Control Plan showing STP and photo locations.

Feet
0 60



LEGEND

- TEMPORARY CONSTRUCTION
- WORK AREA THIS PHASE
- EXISTING TRAFFIC FLOW ARROW
- TEMPORARY WHITE PAVEMENT MARKING ARROW
- (A) 4" WHITE TEMPORARY PAVEMENT STRIPING
- (B) 4" YELLOW TEMPORARY PAVEMENT STRIPING
- (C) 4" DOUBLE YELLOW TEMPORARY PAVEMENT MARKING
- (D) 16" WHITE TEMPORARY PAVEMENT STRIPING
- (E) 4" DASHED YELLOW TEMPORARY PAVEMENT STRIPING
- (F) 4" SKIP WHITE TEMPORARY PAVEMENT MARKING
- TYPE III BARRICADE

Key:
● - STP - Historic Cultural Material
○ - STP - No Cultural Material
⊠ - Not Excavated X.X - Photo Location and Direction

Figure 5.1e:

Construction, Phasing, M.O.T. and Erosion Control Plan showing STP and photo locations.

Feet
0 60

Descriptions of each stratum, including Munsell color, texture, thickness, sediments, and presence or absence of cultural material, was recorded on standardized RGA STP forms that are summarized in Appendix C. Removed soil was separated by stratum and screened through 0.64 cm (0.25 inch) wire mesh hardware cloth to recover artifacts. Following the completion of excavation, each STP was re-filled with soil and the ground returned to its original contours. Daily field notes were maintained by the field supervisor and crew. Representative photographs of all field activities were taken (see Figure 5.1a-e).

Recovered artifacts were bagged separately by provenience and placed in re-sealable polyethylene bags with an accompanying tag that lists the appropriate provenience information. All artifacts were retained with the exception of modern plastic that was noted in the field and discarded. Ubiquitous and modern materials were noted as not retained (NR) and discarded. Artifacts were taken to an off-site laboratory for cleaning and analysis. Artifacts were sorted by material/artifact type and placed into a clean 4 mm thick re-sealable polyethylene bags. Artifacts were cataloged according to provenience and functional group, material, class, and type. The artifact catalog is included as Appendix D. All artifacts recovered and project documents are temporarily stored at the office of RGA in Cranbury, New Jersey. Upon approval, the artifacts will be curated in accordance with 36CFR79 and submitted to the Delaware State Museum.

The research design was considered sufficient to determine if any potentially significant archaeological resources were present in the APE. No constraints were encountered in meeting research objectives. Further, no resources were identified that would necessitate changes to historic contexts, planning goals and research priorities (see Ames et al. 1989; DeCunzo and Catts 1990; Herman 1987; Herman et al. 1989).

5.3 Results

Archaeological fieldwork consisted of a visual reconnaissance of the APE conducted on April 30 and the excavation of 35 STPs conducted on May 18 and 19, 2010. Accessible areas were photographed and areas of potential archaeological sensitivity were noted.

The APE consists of level terrain and pre-existing built environment features, including existing sidewalks, drives, paved parking areas, and extant railroad crossings. The general landscape and topography of the region consists of urban and suburban streetscapes with tightly spaced residences set close to the street and commercial properties with extensive paved parking areas and drives. In several portions of the APE, ground surface is covered by brick, concrete or asphalt paving and classified as urban land. These areas were noted as inaccessible to subsurface testing.

All ground surfaces of the APE accessible to testing were investigated for cultural resources. Vegetation within the APE was characterized as turf grasses with a variety of ornamental plantings. Visual inspection of the ground surface within the APE identified isolated scatters of modern sheet litter associated with roadside discards. Sheet litter consisted predominately of late-twentieth century, discarded plastic and glass beverage container fragments. Disturbances noted within the APE consisted of a variety of surface utility installations for water, stormwater, sewer, and fiber optic lines, buried electrical lines for lamp posts, and buried plumbing for sprinkler systems. These locations and extents of these disturbances were not tested.

Results of the visual reconnaissance were used to guide the placement of STPs in consultation with DelDOT archaeologist David Clarke. Shovel test pits were placed at 10-meter intervals at accessible locations where new sidewalks are proposed and at judgmental intervals where utility poles replacements are proposed within the APE. For ease of discussion, the APE is divided into street segments, and archaeological fieldwork is described in detail for each segment (see Figure 5.1a-e).

South Street

The South Street section is within Heite and Heite's (1989:8, Map 2) Study Areas 9 and 11 and extends approximately 1,470 feet from the intersection of Third and South Streets at Battery Park west-northwest to the intersection of South and West Seventh Streets (see Figures 5.1a-b). The width of the limits of construction ranges from approximately 10 to approximately 15 feet. The area is urban in character with manicured lawns and paved parking areas and drives. Terrain in this section of the APE is level (Plates 5.1-5.4). The South Street section crosses the periphery of the New Castle Historic District (CRS# N-349) between Third and Fifth Streets. Six parcels within the historic district were tested as part of the Phase I survey: 305 South Street (CRS# N- 349.444), a vacant lot at the corner of South and Fourth Streets (CRS# N-349.555), Booker T. Washington School/322 South Street (CRS# N-349.338), 425-427 South Street (CRS# N-349.316), 81 West Fifth Street (CRS# N-349.564), and James T. Eliason House/80 West Fifth Street (CRS# N-349.334). Of these, only the James T. Eliason House and the Booker T. Washington School are contributing elements of the district, which has a period of significance from 1651 to 1930. The potentially eligible Leslie-Travers Mansion Wall and Gate at South and Sixth Streets (CRS# N-385) and the ineligible South Street Garden Townhouses at 603-629 South Street (CRS# N-05254) are also located in this section of the APE.

Plate 5.1:

Overview of South Street from eastern terminus of the APE.
Photo view: Northwest
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.2:

South Street between Fourth and Fifth Streets.
Photo view: Northeast
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.3:

South Street between Sixth and West Seventh Streets.
Photo view: Northwest
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.4:

South Street between Sixth and West Seventh Streets.
Photo view: East
Photographer: Sharon D. White
Date: May 18, 2010

Sixteen STPs were excavated in this section with seven placed at 10-meter intervals and nine positioned judgmentally at locations where utility pole relocations are proposed within the LOC (STPs 1-11, 13, 14, and 16-18, see Appendix C). Two proposed STPs in this section were not excavated due to prior disturbance by underground utilities; one STP (12) was not excavated due to property owner refusal at 629 South Street (tax parcel 21-014.00-373).

Soil profiles in this section of the APE consisted mainly of stratigraphy composed of one or more layers of fill overlying subsoils (B horizons), although natural soil profiles were encountered in two STPs (17 and 18). Five distinct profiles were encountered along South Street, four of which were atypical of soils types mapped by the NRCS *Web Soils Survey* (see Section 3.0). Profile 1, represented by STP 2, contained a very dark grayish brown silt loam A horizon approximately 25 cm thick, overlying a 20 cm thick layer of yellowish brown silt loam fill. Beneath these two deposits subsoil horizons were encountered that consisted of a yellowish brown silt B1 horizon over a mottled yellowish brown and light gray coarse sandy clay with pebbles (see Figure 5.2; Appendix C). Profile 2, represented by STP 4, contained a very dark grayish brown silt loam A horizon approximately 20 cm thick, overlying two fill layers identified as a 10 cm thick layer of very dark brown silt loam and a 20 cm thick layer of brown silt loam. The base of this profile was identified as a mottled light gray and yellowish brown silt (see Appendix C). Profile 3, represented by STP 10, contained a brown sandy silt loam A horizon approximately 13 cm thick, overlying three fill layers identified as 7 cm thick mottled dark grayish brown and yellowish brown sandy silt loam, followed by a very dark brown sandy silt loam, approximately 3 cm thick that transitioned into a 13 cm thick yellowish brown sandy loam. Beneath these fill deposits a 6 cm thick brown loamy sand buried A horizon was encountered overlying a brownish yellow sand B horizon (see Figure 5.2; Appendix C). Profile 4, represented by STP 6, contained a dark grayish brown silt loam A horizon approximately 14 cm thick, overlying three to four fill layers represented in STP 6 as a 14 cm thick very dark grayish brown silty clay loam, followed by a brownish yellow silt loam, approximately 16 cm thick, an 18 cm thick mottled brownish yellow and very pale brown silt loam and a very pale brown silt loam compacted fill that impeded further excavation (see Appendix C). Profile 5, represented by STP 18, was the only natural soil profile encountered in this section of the APE, and was consistent with the Hambrook soils type component mapped for portions of the South Street section of the APE (see NRCS 2008). Stratigraphy in STP 18 contained a very dark gray silt loam A horizon approximately 24 cm thick, overlying a 36 cm thick yellowish brown sandy clay loam B horizon (see Figure 5.2; Appendix C). Only two STPs in this section of the APE (STPs 17 and 18) contained natural stratigraphy. Two STPs (1 and 6) were stopped by compacted fill deposits. The limit of excavation in these STPs ranged from 85 to 90 cm below ground surface.

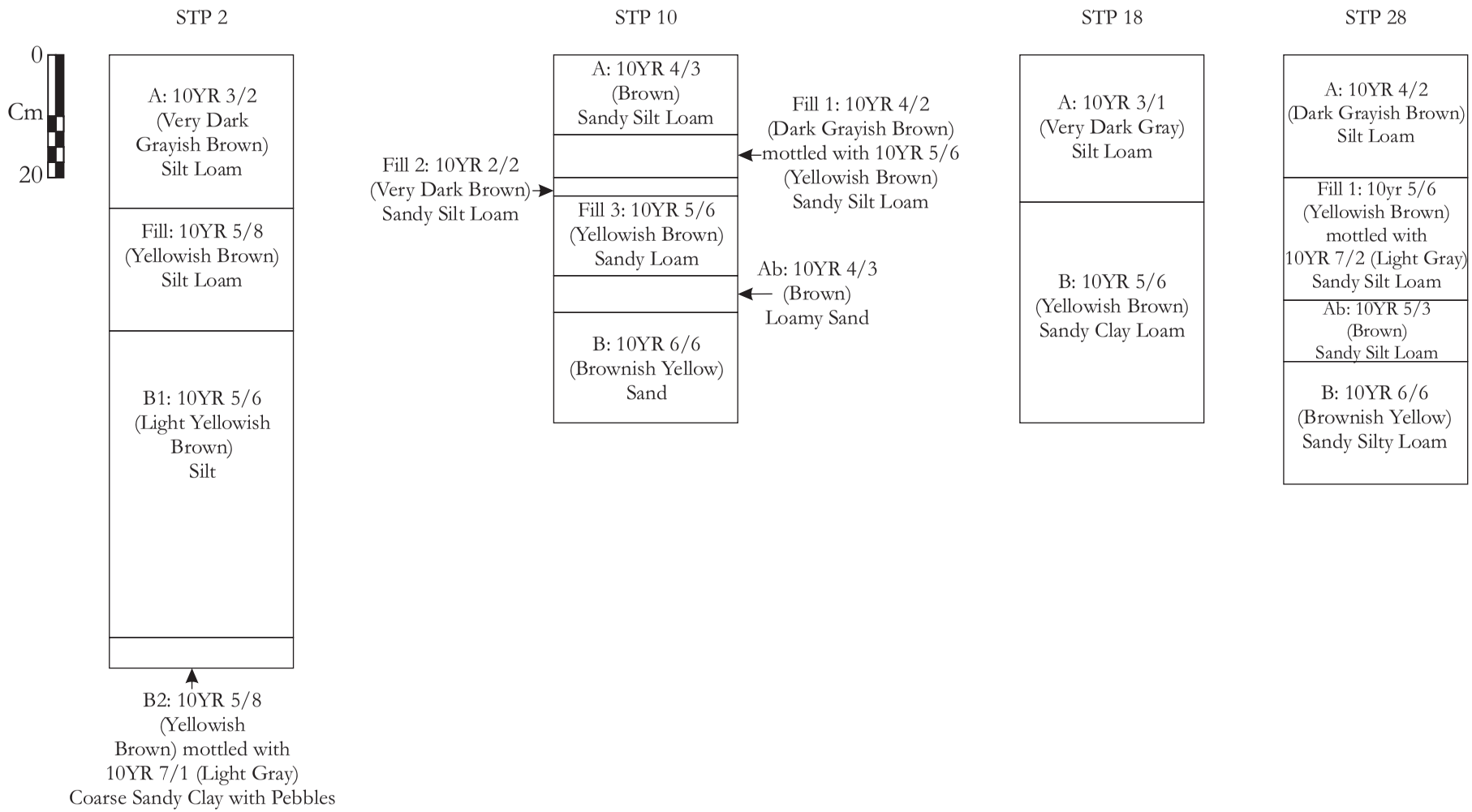


Figure 5.2:

Representative soil profiles from STP's 2, 10, 18 and 28.

A total of 357 artifacts in the South Street section were recovered from STPs 1-11, 13-14, and 16-18 and contained in surface strata and underlying layers of fill (see Figure 5.1a-e; Appendices C and D). Artifacts were recovered from fill deposits that extended to a depth of 90 cm below ground surface. No concentrated artifact deposits, structural remains, foundations or cultural features were identified in the South Street segment of the APE. Artifacts were recovered from eight parcels in the South Street section that were previously surveyed for cultural resources.

Four STPs (1-4) were excavated at 305 South Street (CRS# N- 349.444), where tennis courts exist on land formerly used as former railroad sidings. The tennis courts are a non-contributing element of the New Castle Historic District. A mixed assemblage of a mid-eighteenth through early twentieth century architectural, domestic, and fuel-related materials recovered in stratigraphy described as compact fill suggests that these deposits are in secondary context (see Appendix D). One STP (5) was excavated on the adjacent vacant lot at the corner of South and Fourth Streets (CRS# N-349.555), which is a non-contributing element of the New Castle Historic District, and demonstrates a similar profile of heterogeneous fill that contains a mix nineteenth and twentieth century materials (see Appendix D). This lot appears as open space adjacent to a railroad siding on historic maps. One STP (6) was excavated on the property of the Booker T. Washington School/322 South Street (CRS# N-349.338). An assemblage of nondiagnostic architectural, food and fuel-related materials was recovered in stratigraphy described as topsoil overlying layered heterogeneous fill. This lot has been redeveloped multiple times since the early nineteenth century, and currently operates as a senior citizens center. Previous uses of the property include an iron works and a railroad shop, both demolished prior to the construction of the school. Since the assemblage does not contain datable materials, it cannot be directly associated with any previous uses of the property. One STP (7) was excavated at 425-427 South Street (CRS# N-349.316). A mixed assemblage of late nineteenth and twentieth century architectural, domestic and fuel-related materials was recovered in stratigraphy described as heterogeneous fill. This lot contains new residences built in 2005 on a formerly vacant lot. The prior documented use of this property was a late eighteenth to early nineteenth century tannery. However, cultural materials recovered in STP 7 post-date the operation of the tannery by several decades. One STP (8) was excavated at 81 West Fifth Street (CRS# N-349.564). A mixed assemblage of nineteenth and twentieth century architectural, domestic, food-related and fuel-related materials was recovered in stratigraphy described as layered heterogeneous fill. This lot contains a recently built residence on a formerly vacant lot. One STP (9) was excavated on the property of the James T. Eliason House/80 West Fifth Street (CRS# N-349.334). The James T. Eliason House was constructed in 1899 on a formerly vacant lot. An assemblage of nondiagnostic architectural, food-related, fuel-related and domestic materials was recovered in stratigraphy described as topsoil overlying layer heterogeneous fill. Since the assemblage does not contain datable materials, its association with the property is unknown.

Two STPs (10 and 11) were excavated within the former boundaries of the Lesley-Travers estate. A segment of the estate's wall runs along South Street between Sixth and West Seventh Streets (CRS# N-385). The construction date for the wall is unknown but may be an early twentieth century addition to the property (Richard Grubb & Associates 2011). A row of garden townhouses (CRS# N-05254) was built in 1948 after the subdivision of the estate and the land behind the wall's north face was filled and leveled as part of this construction. The townhouses are not considered a National Register eligible resource. An assemblage of late nineteenth and twentieth century architectural and domestic materials was recovered in STPs 10 and 11 in stratigraphy described as topsoil overlying layered heterogeneous fill. Three STPs (16-18) were excavated at the corner of South and West Seventh Streets on the property of the William A. Campbell House/614 South Street (CRS# N-05217), built circa 1920. The William A. Campbell House is not considered a National Register eligible resource. A mixed assemblage of mid-nineteenth and twentieth century architectural, domestic, food-related and fuel-related materials was recovered from topsoil and fill contexts.

No artifacts recovered in the South Street segment were found in natural soil strata buried below fill, and the artifact distribution observed was interpreted as secondary context deposition with poor integrity. The artifacts recovered from contexts with poor integrity consisted of a mixed-context assemblage of nineteenth and twentieth century architectural, domestic, and fuel related items as well as a number of badly corroded artifacts of indeterminate function (see Appendix D; Figure 5.3). Included in the assemblage were red earthenware, stoneware, white granite, whiteware, and majolica ceramics dated to the nineteenth century as well as colorless, amber, bright green and cobalt blue vessel glass, cut and wire nails, plate glass window shards, and carbon battery cores in use from the late nineteenth century through the twentieth century. Many of the artifacts recovered in the South Street segment were undatable objects that included red clay brick fragments, coal, coal ash, slag and oyster shell. In addition to artifacts retained, ubiquitous and modern materials were noted as not retained (NR) and discarded from seven STPs (1, 2, 4, 6, 9, 14, and 16) in this segment of the APE (see Appendix C). Materials not retained include modern glass and plastic. The artifacts recovered could not be directly associated with properties considered contributing elements to the New Castle Historic District or with the potentially eligible Lesley-Travers Mansion Wall and Gate due to a lack of contextual integrity.

The STPs contained a mixed artifact assemblage of nineteenth and twentieth century artifacts as well as a few artifact types with periods of manufacture spanning the late eighteenth through mid-nineteenth centuries including a black glazed red earthenware and a blue shell-edged ceramic,

Figure 5.3:

Representative artifacts found in fill deposits in the South Street section of the APE.

Left to right: Pull tab; Roofing nail; Red earthenware;
White granite plate fragment (Cat. # 4).

whiteware ceramics and a hand-forged nail, all recovered within the A horizon and Fill 1 strata (see Appendix D). Heite and Heite (1989) suggest that fill materials used throughout New Castle consisted primarily of soils borrowed from high ground within the city vicinity that was used to fill and level adjacent low areas. South Street near Third Street was bordered by unoccupied hilly terrain that was cut and leveled during the construction of the NC&FRR railyard and wharf (Heite and Heite 1989:35). The stratigraphy observed in STPs in the South Street section documented fills of differential color, texture, and thickness that vary from location to location. The chronological range of artifacts recovered in these fills suggests they are secondary deposits. During the late nineteenth and twentieth centuries further alterations to the South Street area occurred as a result of building removals, the dismantling of the railroad, the installation of street pavement, curb, sidewalks and utilities, and the redevelopment of properties that front South Street. These disturbances may have introduced fills that contained later period cultural materials to the APE as well as remodeling soils and previously deposited fills. Discards most likely also contribute to the chronologically diverse assemblage recovered.

In summary, no concentrated artifact deposits, structural remains or features were identified in the South Street segment of the APE, and the context of the artifacts recovered was interpreted as secondary context deposits with poor integrity. No archaeological sites were identified in the South Street section of the APE.

West Seventh Street

The West Seventh Street section is within Heite and Heite's (1989:8, Map 2) Study Area 12 and extends approximately 1,500 feet from the intersection of West Seventh and South Streets southwest to the intersection of West Seventh and Washington Streets (see Figure 5.1b-d). The width of the LOC ranges from approximately 10 to 15 feet. The area is urban in character with manicured lawns and paved parking areas and drives. Terrain in this section of the APE is level (Plates 5.5-5.10). Eight STPs were excavated in this section with five placed at 10-meter intervals and three positioned judgmentally at locations where utility pole relocations are proposed within the LOC (STPs 15, 19-25, see Appendix C). Three proposed STPs in this section were not excavated due to prior disturbance by underground utilities. Soil profiles in this section of the APE consisted mainly of stratigraphy composed of one or more layers of fill overlying subsoils (B horizons), although natural soil profiles were encountered in three STPs (STPs 15, 19 and 20). Two distinct profiles were encountered along West Seventh Street. Profile 1, represented by STP 19, was a natural soil profile that contained a very dark grayish brown silt loam A horizon approximately 10 cm thick, overlying a 18 cm thick dark grayish brown silt loam buried A horizon and a mottled yellowish brown and brown silty clay loam B horizon (see Appendix C). This profile was consistent with the Hambrook soils type component mapped for portions of the South Street section of the APE (see NRCS 2008).

Plate 5.5:

Intersection of South Street and West Seventh Street.
Photo view: Northeast
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.6:

Intersection of South Street and West Seventh Street.
Photo view: Southwest
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.7:

Intersection of South Street and West Seventh Street.
Photo view: Northeast
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.8:

West Seventh Street between South Street and the railroad crossing.
Photo view: Northeast
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.9:

West Seventh Street between Umbrella Row and Washington Street.
Photo view: Southwest
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.10:

West Seventh Street between Umbrella Row and Washington Street.
Photo view: Northeast
Photographer: Sharon D. White
Date: May 18, 2010

Profile 2, represented by STP 22, contained a very dark grayish brown silt loam A horizon approximately 20 cm thick, overlying two fill layers identified as a 20 cm thick layer of dark gray silt loam and 50 cm thick mottled yellowish brown and brown silty clay. Beneath these two fill deposits a yellowish brown silty clay B horizon was encountered (see Appendix C). Two STPs (24 and 25) were stopped by water encountered at a depth of 45 to 50 cm below ground surface before subsoils were reached.

In the West Seventh Street segment a total of 106 artifacts were recovered from STPs 15, 20-22, and 24-25 and contained in surface strata, a buried A horizon and underlying layers of fill (see Figure 5.1a-e, Appendices B and C). Artifacts that were recovered from STPs 21, 22, 24 and 25 were contained in surface strata and in fill deposits that extended to a depth of 90 cm below ground surface. Artifacts were recovered from one STP with natural stratigraphy (STP 20). This STP was excavated along West Seventh Street on the property of the William A. Campbell House/614 South Street (CRS# N-05217), built circa 1920. The William A. Campbell House is not considered a National Register eligible resource. The artifacts recovered consisted of nineteenth and twentieth century architectural and domestic related items as well as a number of badly corroded artifacts of indeterminate function (see Appendix D). Included in the assemblage were whiteware and vitreous china ceramics, colorless, amber, bright green and pale aqua vessel glass, cut and wire nails, pale aqua window shards, and porcelain insulator fragments in use from the late nineteenth century through the twentieth century. Many of the artifacts recovered in the West Seventh Street segment were undatable objects that included red clay brick fragments, mortar, coal ash, slag and oyster shell. One STP (22) contained a significantly higher artifact count (n=64) than other STPs excavated in this section of the APE. This STP was located adjacent to the railroad siding for the Brosius-Eliason Lumber Yard, which was in operation from the late nineteenth century until 2008, but no structures are known to have existed at this location. Shovel Test Pit 22 contained an assemblage of nineteenth century architectural and miscellaneous metal artifacts, a significant amount of slag and coal ash as well as one blue transfer-printed whiteware ceramic sherd, all recovered within A horizon and fill strata (Figure 5.4). Overall, the diagnostic artifacts recovered from this STP suggest a late nineteenth century date for fill deposits (see Appendix D).In addition to artifacts retained, ubiquitous and modern materials were noted as not retained (NR) and discarded from five STPs (19, 21, 23, 24 and 25) in this segment of the APE (see Appendix C). Materials not retained consisted of modern glass, aluminum foil and plastic.

West Seventh Street is included within Study Area 12, which includes the southern portions of New Castle's industrial periphery (Heite and Heite 1989). Heite and Heite (1989:50) have argued that the abandoned New Castle & Frenchtown Railroad alignment may contain artifactual evidence of the early history of railroad development. The results of testing did not identify artifact concentrations

Figure 5.4:

Representative artifacts found in fill deposits in the West Seventh Street section of the APE.

Top row, left to right: Whiteware; Bone; Mortar; Wire fragment (Cat. # 36).
Bottom row, left to right: Wire nail; brick (Cat # 37).

or features related to New Castle's early industries.

No concentrated artifact deposits, structural remains or features were identified in the West Seventh Street segment of the APE, and the artifact distribution observed was interpreted as secondary context deposition related to filling and grading. No archaeological sites were identified in the West Seventh Street section of the APE.

Washington Street

The Washington Street section of the APE, which is not covered in Heite and Heite's (1989) preservation plan, extends approximately 1,084 feet from the intersection of West Seventh and Washington Streets northwest to the intersection of Washington and Tenth Streets and incorporates the eastern margin of the Stonum property (see Figure 5.1d-e). West of Tenth Street, the development along Washington Street consists of mid- to late twentieth century residences. As a result, portions of the APE between Tenth Street and Route 273 were classified as low probability areas for both prehistoric and historic archaeological resources and were not surveyed following discussions with DelDOT archaeologist David Clarke (personal communication May 7, 2010). The width of the LOC ranges from approximately 10 to 15 feet. The area is suburban in character with manicured lawns and paved parking areas and drives. Terrain in this section of the APE is level (Plates 5.11-5.13). Eleven STPs were excavated in this section with nine placed at 10-meter intervals and two positioned judgmentally at locations where utility pole relocations are proposed within the LOC (STPs 26-36, see Appendix C). Four proposed STPs in this section were not excavated since they fell in paved areas. Soil profiles in this section of the APE consisted of stratigraphy composed of one or more layers of fill overlying subsoils (B horizons). Two distinct profiles were encountered along Washington Street. Profile 1 was a soil profile composed of one or more layers of fill overlying natural soils. As represented by STP 28, this profile contained a dark grayish brown silt loam A horizon approximately 20 cm thick, overlying a mottled yellowish brown and light gray sandy silt loam fill deposit approximately 20 cm thick (see Appendix C). Beneath this fill deposit a 10 cm thick brown sandy silt loam buried A horizon was encountered overlying a brownish yellow sandy silt loam B horizon (see Figure 5.2; Appendix C).

Profile 2 was a soil profile composed of two or more layers of fill overlying natural soils. As represented by STP 31, this profile contained a dark grayish brown silt loam A horizon approximately 24 cm thick, overlying three fill layers identified as a 24 cm thick layer of mottled yellowish brown and dark grayish brown silt loam, a 36 cm thick grayish brown coarse sand with pebbles, and a 16 cm thick light yellowish brown sand. Beneath these fill deposits two subsoils were encountered that were identified as a light yellowish brown fine sand B1 horizon approximately 20 cm thick and a mottled yellowish brown and light gray sandy clay encountered at a depth of 120

Plate 5.11:

Washington Street between Ninth Street and the railroad crossing.
Photo view: Southeast
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.12:

Washington Street between Ninth and Tenth Streets within Stonum property.
Photo view: Southeast
Photographer: Sharon D. White
Date: May 18, 2010

Plate 5.13:

Washington Street between Ninth and Tenth Streets.
Photo view: Southeast
Photographer: Sharon D. White
Date: May 18, 2010

centimeters (see Appendix C). Natural subsoils underlying fill deposits in the Washington Street section profiles were similar in character to strata representative of the Mattapex soils series and the Hambrook soils series; artificial profiles are consistent with the NRCS *Web Soils Survey* mapping of this section of the APE as cut and fill Udorthents soils and as Urban Land (see Section 3.0).

A total of 125 artifacts in the Washington Street segment of the APE were recovered from STPs 27-36 and contained in surface strata and underlying layers of fill (see Figure 5.1a-e, Appendices C and D). Artifacts were recovered from fill deposits that extended to a depth of 50 cm below ground surface. No artifacts recovered in the Washington Street segment were found in natural soil strata buried below fill. The artifacts recovered from fill consisted of mixed nineteenth and twentieth century architectural, domestic, hardware and fuel related items as well as a number of badly corroded artifacts of indeterminate function (see Appendix D). Six STPs (STP-28 and STP-33) were excavated within the boundaries of Stonum/900 Washington Street (CRS# N-362). Stonum has a mid- to late eighteenth century period of significance for its association with George Read. An assemblage of mid- to late nineteenth century materials was recovered in fill along the eastern edge of the Stonum property. A utility trench was identified in the base of some STPs (see Appendix C). These STPs contained a mixed assemblage of nineteenth and twentieth century materials in fill (Figure 5.5). Included in the assemblage of artifacts recovered along Washington Street were red earthenware, white granite, whiteware, and rockingham ceramics, colorless, amber, dark olive, and aqua vessel glass, cut and wire nails, pale aqua and pale green window shards, and carbon battery cores in use from the nineteenth century through the twentieth century. Many of the artifacts recovered in the Washington Street segment were undatable objects that included red clay brick fragments, coal, coal ash, slag and miscellaneous iron and copper allow metal hardware and machine parts. In addition to artifacts retained, ubiquitous and modern materials were noted as not retained (NR) and discarded from three STPs (31, 34, and 36) in this segment of the APE (see Appendix C). Materials not retained consisted of coal and brick, which were sampled, modern glass, and plastic.

In summary, no concentrated artifact deposits, structural remains or features were identified in the Washington Street segment of the APE, and the artifact distribution observed was interpreted as secondary context deposition related to filling and grading. No archaeological sites were identified in the Washington Street section of the APE.

<u>Summary</u>

The excavation of 35 STPs yielded 588 historic artifacts from 32 STPs. No prehistoric artifacts were encountered in the STPs. The majority of artifacts (61%, n=357) were recovered from fill deposits in the South Street segment of the APE. Background research suggests that this area of New Castle has been extensively altered by cutting of knolls to provide borrow material for the filling of low-

Figure 5.5:

Representative artifacts found in fill deposits in the Washington Street section of the APE.

Top row, left to right: Red earthenware; Pale aqua window fragment; Corroded nail (Cat. # 43).
Bottom row, left to right: Coal; Rockingham fragment; beer bottle glass; Colorless vessel glass (Cat # 44).

lying marshy areas as well as by grading for construction and maintenance of roads and railroads since at least the early nineteenth century (Heite and Heite 1989). During the late nineteenth and early twentieth centuries the South Street area was further altered through the removal of the railroad, the installation of street pavement, curb, sidewalks and utilities, and the replacement of industrial facilities with public and private buildings. Cutting, filling and grading completed as part of these activities most likely remodeled soils and previously deposited fills and may account for later period cultural materials recovered in mixed contexts. Artifact discards also contribute to the chronologically diverse assemblage.

Artifacts recovered within the South Street segment of the APE were a mixed assemblage of nineteenth century and twentieth century materials or undatable materials contained in successive layers of fill. Of the 357 artifacts recovered in the South Street segment, the most significant artifact classes represented were architectural materials (49%), domestic materials (25%), and fuel or fuel byproducts (18%). While artifacts were recovered on nine previously surveyed properties in the South Street section, none can be directly related to the periods of occupation for these properties. No archaeological sites were identified in the South Street section of the APE.

Artifacts recovered in the West Seventh Street segment of the APE (n=106) represented approximately 18% of the total artifact assemblage for the project. Of the 106 artifacts recovered in the West Seventh Street segment, the most significant artifact classes represented were fuel or fuel byproducts, architectural materials, and domestic materials. The APE in this segment is characterized as a commercial and light industrial area of New Castle with few residential buildings until the mid-twentieth century. As a result, much of the artifact assemblage recovered along West Seventh Street appears to represent secondary deposits from road and railroad bed stabilization or other filling and grading activities. No archaeological sites were identified in the West Seventh Street section of the APE.

Artifacts recovered in the Washington Street segment of the APE (n=125) represented approximately 21% of the total artifact assemblage for the project. Artifacts recovered within this segment of the APE were also a mixed assemblage of nineteenth century and twentieth century materials. Of the 125 artifacts recovered in the Washington Street segment, the most significant artifact classes represented were architectural materials (31%), miscellaneous metal debris (23%), fuel or fuel byproducts (21%), and domestic materials (21%). The majority of the STPs excavated in this segment of the APE were located along the side of Stonum, a country estate dating to the eighteenth century, and directly opposite the former Deemer Steel Casting, a facility that was originally developed as Triton Mills in the mid-nineteenth century and demolished in 1994. No eighteenth century materials were recovered in these STPs, and the majority of artifact classes represented

appear to be more related to nineteenth and twentieth century activities. Of the 25 domestic materials recovered by Stonum, 17 are vessel glass shards from bottles or other beverage containers. Only seven household ceramics and two possible lamp chimney fragments were recovered. All of the materials recovered post-date the period of significance for Stonum. Overall, the low number of domestic artifacts suggests casual discard rather than intentional refuse disposal related to residency at Stonum.

Some portions of the APE classified as areas of high potential for prehistoric and/or historic archaeological resources contained paved surfaces that prevented close interval shovel testing (see Figure 5.1a-e). As a result, judgmentally placed shovel tests were completed in these areas. In particular, portions of the South Street section of the APE were inaccessible to testing due to existing sidewalks, drives and parking areas. Portions of the APE between the intersections of Fourth and Fifth Streets along South Street within and adjacent to the New Castle Historic District are documented locations of early to mid-nineteenth century buildings and facilities, including a tannery and its related barkhouse, the New Castle Manufacturing Company (later Hicks Steam Engine Works), and the right-of-way of the New Castle and Frenchtown Railroad (see Section 4.3). Shovel testing in these areas was limited to the locations of utility pole replacements. These portions of the APE have been redeveloped since the early twentieth century and have been subjected to ongoing infrastructure maintenance and upgrade activities. Moreover, Heite and Heite's (1989:59) research indicates that road alignments in New Castle have been relatively stable and have a low sensitivity for archaeological resources. Documentary research within the APE indicates that South Street has maintained its original alignment and that no map documented structures were located within the APE. Project impacts are not planned in areas where the former NC&FRR alignment crosses the APE. Based on the extensive disturbance that has occurred in these areas, as well as the results of background research and judgmental shovel testing, and the limited extent and depth of ground disturbance proposed, archaeological monitoring of construction activities at these locations is not warranted.

One property (629 South Street) at the corner of South Street and West Seventh Street, where a utility pole replacement is proposed, could not be tested due to the owner's refusal to grant access to the property (D. Octavio, personal communication, May 18, 2010). Shovel testing completed on adjacent properties did not yield evidence of archaeological resources. Given the limited impacts at this location and the results of testing in adjacent areas, an archaeological historic property is unlikely to be affected. Archaeological work (i.e. monitoring) at this location is unlikely to yield significant resources.

In summary, the artifact assemblage recovered in the APE (n=588) is a temporally mixed assemblage of nineteenth and twentieth century materials recovered in secondary fill deposits and in A-horizon strata. The origins of these artifacts are generally unknown but could include infilling of wetland areas or roadside stabilization practices. Artifact frequencies were fairly evenly distributed throughout the APE, with slightly higher counts in STPs positioned in proximity to existing or former railroad lines where deeper and more heterogeneous fills were expected. The majority of soil profiles were composed of one or more layers of fill. The few natural soil profiles encountered were discontinuous and contained limited frequencies of artifacts. No features or early historic (seventeenth or eighteenth century) materials were identified as a result of Phase I archaeological survey. Archaeological resources potentially contributing to the significance of Stonum (NHL) and the New Castle Historic District were not identified.