

2.0 RESEARCH DESIGN

The objective of the historic structures survey and report for the BR 159 James Street over Christina River project was to conduct an evaluation level survey of architectural resources within the APE of the proposed project. An historic structures report was requested to aid with the identification and evaluation of resources within the project's APE. BR 159 was previously determined not eligible for listing on the National Register by DelDOT with concurrence from DE SHPO. Initial investigations identified several previously surveyed historic resources in the immediate vicinity of the project bridge. Investigations also noted the presence of an early-to-mid twentieth century office building immediately northwest of the project bridge which required survey work to determine its potential to be considered eligible for the NRHP. The scope of work for the current project was determined in consultation with DelDOT Cultural Resources Staff.

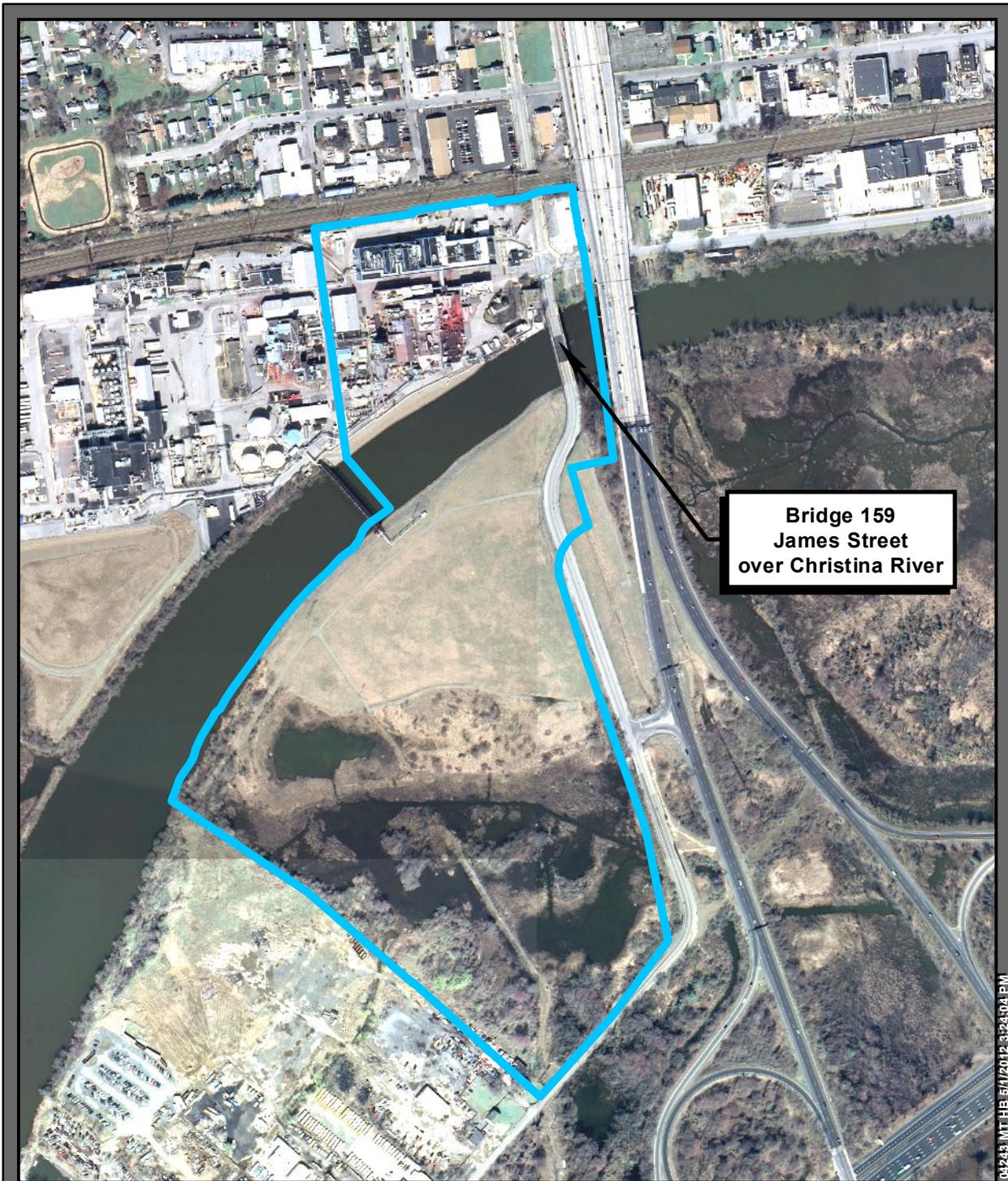
2.1 Area of Potential Effects (APE)

An Area of Potential Effects (APE) for above-ground historic resources was developed for the proposed BR 159 James Street over Christina River project. The APE is defined as the "geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist (36CFR§800.16 [d])." The APE for historic structures for the proposed BR 159 James Street over Christina River project was drawn in consideration of potential visual as well as other direct and indirect effects. It is currently defined as the area for which transportation and land use studies are being undertaken (**See Figure 3**). The APE was developed to incorporate properties located adjacent to the existing right-of-way. Usually, the APE for archaeological resources is a subset of the above-ground APE. The APE for archaeological resources is defined as any part(s) of the project area in which ground disturbance may occur. In this instance ground disturbance will not occur outside the project study area boundary.

2.2 Background Research and Previously Identified Resources

Prior to any field investigations, the DE SHPO files and online database were reviewed. Two (2) previously surveyed and evaluated resources were identified within the APE of the proposed BR 159 James Street over Christina River project: Joseph Tatnall House (N12807) and BR 159 James Street over Christina River (N04292) (**See Figure 4**). The Joseph Tatnall House was listed on the NRHP on July 14, 1993. BR 159 over Christina River was surveyed as part of the 1991 comprehensive bridge survey and was recommended not eligible for the NRHP. Field investigations undertaken by DelDOT staff confirmed the presence of both previously identified historic resources. Field investigations also identified the Krebs Pigment & Color Corporation Building A-47 as meeting the requirements to be evaluated for the NRHP under Section 106 of the National Historic Preservation Act.

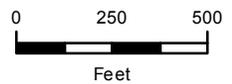
Additional research was undertaken to gain a better understanding of the study area and Krebs Pigment & Color Corporation. McCormick Taylor, Inc. staff conducted research



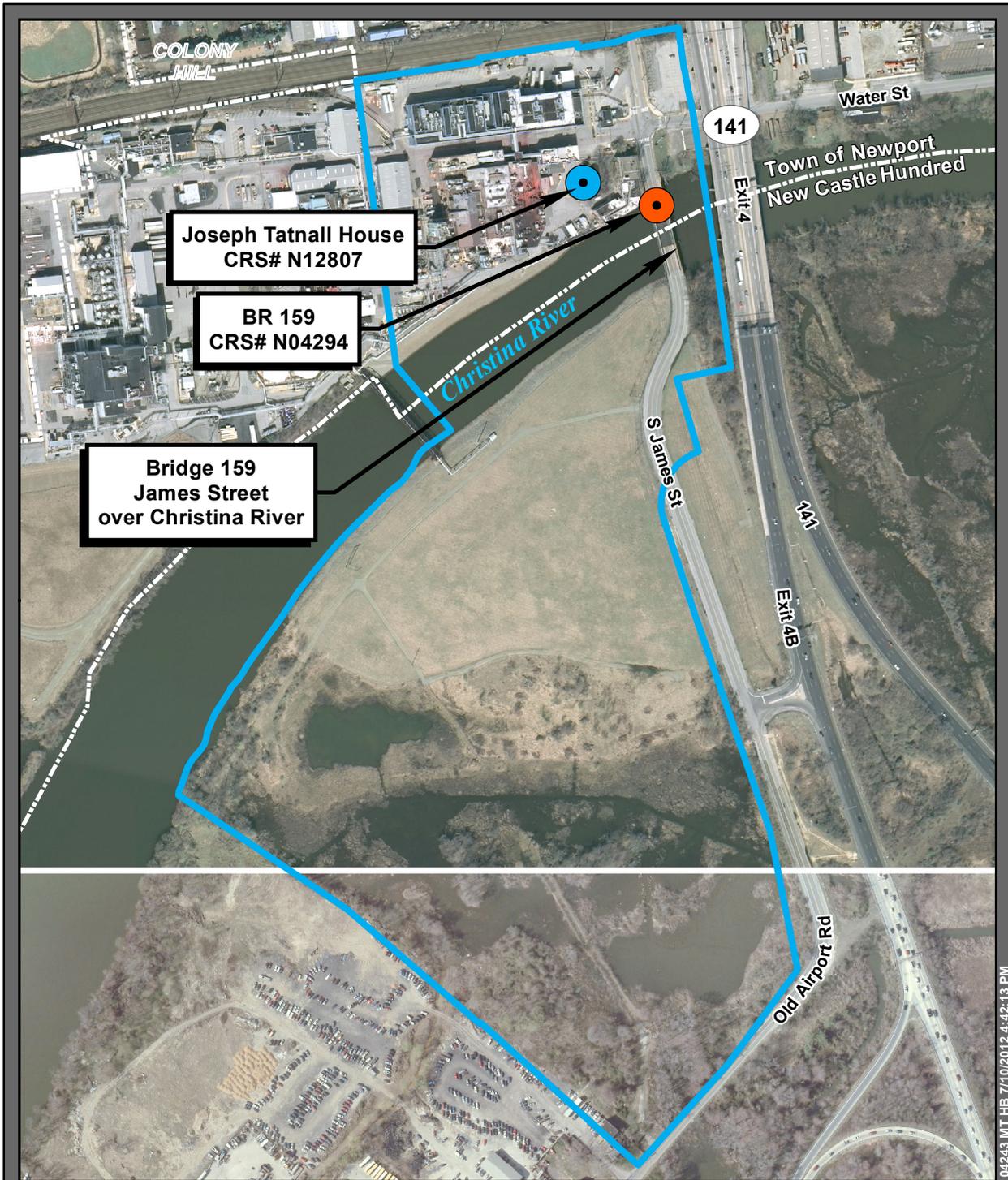
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Figure 3
Area of Potential Effects
Bridge 159 James Street over Christina River
Town of Newport and New Castle Hundred,
New Castle County, Delaware

 Historic Architecture APE



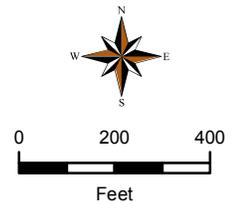
Source: Delaware DataMIL, 2010



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Figure 4 - Previously Identified Resources
 Proposed Bridge 159 James Street over Christina River
 Town of Newport and New Castle Hundred,
 New Castle County, Delaware

- Listed
- Ineligible
- Historic Architecture APE



Source: Delaware DataMIL, 2010

at the Hagley Library in Wilmington, University of Delaware at Newark, and Delaware Historical Society, in Wilmington. Online research included review of historic Sanborn Insurance Company mapping, historic aerial photographs, Cultural and Historical Resource Information System (CHRIS), and New Castle County tax assessment information. DelDOT and McCormick Taylor, Inc. staff met with Rudy Merstetter, BASF Site Manager for the Newport facilities, to discuss the project and to address matters related to the ongoing cultural resource investigations.

The following context studies, architectural surveys, and architectural guides were used to develop historic themes, identify property types and assist with the evaluation of resources:

- *Delaware Historic Bridges Survey and Evaluation* in 1991. (P.A.C. Spero & Company, 1991)
- *Historic and Architectural Resources of Newport, Delaware* (Kurtze, 1993)
- *Delaware Historic Bridges: Survey and Evaluation of Historic Bridges with Historic Contexts for Highways and Railroads*, (Lichtenstein Consulting Engineers, Inc. 2000)
- *A Field Guide to American Houses* (McAlester and McAlester, 1998)
- *American Architecture: An Illustrated Encyclopedia*, (Harris, 1998)
- *Suburbanization in the Vicinity of Wilmington, Delaware, 1880-1950+/-: A Historic Context* (Chase et al. 1992)

A National Register nomination form for a Multiple Property Listing, entitled the *Historic and Architectural Resources of Newport, Delaware*, was completed by Peter Kurtze. The inventory of Newport resources included the Joseph Tatnall House which was listed in the NRHP on July 14, 1993. The Multiple Property Listing provided additional information on the Krebs Pigment & Color Corporation and development of the Town of Newport.

P.A.C. Spero & Company completed the *Delaware Historic Bridges Survey and Evaluation* in 1991 on behalf of the DelDOT. BR 159 James Street over Christina River was evaluated as part of the survey and was recommended not eligible for the National Register due to a lack of integrity. The report cited the fact that the bridge no longer functioned as a bascule type bridge. In addition, elements of the bascule bridge, including the operator's house, had been removed. The *Delaware Historic Bridges Survey and Evaluation* and *Delaware Historic Bridges: Survey and Evaluation of Historic Bridges with Historic Contexts for Highways and Railroads* provided information on bridge and transportation development in Delaware. DelDOT Bridge and Roadway records were also provided dating from the late 1920's to the early 1960's. This was helpful in determining original construction dates, land use and bridge

navigation activities, and progression of the current BASF plant immediately around Bridge 1-159.

2.3 Expected Results

Based upon preliminary field investigations conducted by DeIDOT staff, it was anticipated that three (3) resources 50 years or older were located within the APE: Joseph Tatnall House (N-12807), Krebs Pigment & Color Corporation Building A-47 (N12806.001) and BR 159 James Street over Christina River (N-04294). The Joseph Tatnall House (N12807) is located on the same tax parcel as the Krebs Pigment & Color Corporation Building A-47, but does not fall within the view shed of the proposed project. The Krebs Pigment & Color Corporation Building A-47 was identified as a potentially historic resource that would require survey and evaluation for the NRHP. The DE SHPO assigned the former Krebs Pigment & Color Corporation plant the Cultural Resource Survey (CRS) number N12806. Each individual structure within the complex will be assigned a sub-number to the CRS number to distinguish the resource as part of the overall complex. Building A-47 has been assigned N12806.001.

The BASF Newport Plant includes over twenty-five various industrial structures, mostly constructed between 1916 and the late 1970s. Most buildings and facility operations have undergone significant alterations or additions as part of continual plant improvements and upgrades to meet new technological demands and safety requirements (**See Photographs 1-9**). As a long standing plant and facility operation, the BASF Newport Plant does retain a few unaltered structures, but has also witnessed the introduction of modern buildings throughout the plant's grounds. Based on discussions with the BASF plant managers, the complete retrofit of internal facility productions and renovations to the number of buildings and operations have occurred. Overall, it was not commensurate with the project undertaking to determine the historic status and integrity of the BASF Newport Plant as a whole. Based on limited access and information, it does not appear that the plant from an architectural perspective lacks sufficient integrity to convey the historic significance of the industrial facility spanning the period 1901 to the present. However, the BASF Newport Plant as a whole could be eligible for its long standing and continual historic events and contribution as an active production plant for Newport and for its international niche as a chemical pigment and color production operation. Further efforts would be needed to best determine the historic status of the plant and its integrity.

2.4 Field Survey

The field survey was conducted by McCormick Taylor, Inc. architectural historians following completion of the initial background research. Jerry Clouse, M.A. served as Historic Structures Group Coordinator for the architectural survey and participated in background research and field investigations. Charles Richmond, M.A. conducted the background research, field investigations, and document preparation. The cultural resources staff exceeds the minimum qualifications established by the National Park Service's Professional Qualifications Standards (36 CFR Part 61) (**See Appendix A**).

The purpose of the field survey was to identify any resources 50 years of age or older within the APE established for the BR 159 James Street over Christina River project. Field investigations were undertaken on February 1, 2012. The APE is limited to all properties adjacent to the proposed project bridge site and includes 59.68 acres total area. A total of three (3) resources fifty years or older in age were identified within the APE. Construction dates were established through a review of available tax assessment records, DelDOT records, and secondary literature sources. Two (2) resources had been previously identified and evaluated for the National Register. As part of the survey, previously identified resources were field checked to confirm their status. The field survey identified one (1) previously unevaluated resource 50 years or older with potential to be eligible for the NRHP.

It was determined that CRS Forms (including Forms 1, 2, and 9) would be prepared for any previously unevaluated resources within the APE. Any previously surveyed resources would be documented through the completion of CRS Form 10 Update Forms. CRS Forms would be completed to evaluate the property's eligibility for the NRHP. A CRS Form 10 Update Form was prepared for the project bridge, BR 159 James Street over Christina River, which had previously been surveyed and determined not eligible for the NRHP. The update form would be prepared to confirm the previous evaluation.

As a result of the field investigations, DE SHPO Cultural Resource Survey (CRS) forms were prepared for two (2) resources: Krebs Pigment & Color Corporation Building A-47 and BR 159 James Street over Christina River. An update form (CRS-10) was prepared for BR 159 James Street over Christina River (**See Appendix B**).

2.5 Assessment of Eligibility

The significance of a historic property is identified when it is placed in and evaluated within its historic context or contexts. Historic contexts illustrate patterns which are identifiable through the examination of the property and the history of the surrounding area. Once a property is evaluated within its historic context, it must demonstrate that one or more of the four National Register for Historic Places (NRHP) Criteria for Evaluation is applicable. These criteria represent the particular relationships a property may have to the nation, state or local area.

The four criteria of eligibility are: Criterion A, B, C, or D. Resources may be eligible for listing on the National Register of Historic Places if:

Criterion A: They are associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B: They are associated with the lives of persons significant in our past.

Criterion C: They embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.



Photograph 1: View looking south at façade of the Krebs Pigment & Color Corporation Building A-47 (N12806.001).



Photograph 2: View looking north along BR 159 James Street over Christina River (N04294). Note the Krebs Pigment & Color Corporation Building A-47 (N12806.001).



Photograph 3: South and east elevations of the NRHP listed Joseph Tatnall House (N12807).



Photograph 4: View looking northwest at Building 20 from the Joseph Tatnall House.



Photograph 5: View looking east along Water Street within the BASF Newport Plant.



Photograph 6: View looking northwest toward Buildings A-502 and Building A-67 along Water Street.



Photograph 7: View looking east along River Road within the BASF Newport Plant.



Photograph 8: View of Building A-81, with buildings associated with the Holly Run industrial operation in the background.



Photograph 9: View looking south at storage containers near Christina River.

Criterion D: That have yielded, or may be likely to yield, information important in prehistory or history.

In addition, a property must possess integrity of location, design, materials, setting, workmanship, feeling, and/or association (National Register Bulletin 1990: 44). Once a property is evaluated within the appropriate criteria/criterion, the integrity of the property must be checked. All properties change over time. However, the property being evaluated must retain the essential features which convey its historic identity. These features describe why and when a property was significant (National Register Bulletin 1990: 46).

Under Criterion A or B, a property that is significant for its historic association is eligible “if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s). If a property is eligible under Criterion C, it must “retain most of the physical features that constitute that style or technique (National Register Bulletin 1990: 46).” For a property to be eligible under Criterion D, “integrity is based upon the property’s potential to yield specific data that addresses important research questions (National Register Bulletin 1990: 46).”

A property eligible under Criterion A and/or B should possess some virtues of the seven aspects of integrity. Properties eligible under Criterion C must retain “those physical features that characterize the type, period, or method of construction that the property

represents. Retention of design, workmanship, and materials will usually be more important than location, setting, feeling, and association (National Register Bulletin 1990: 48).” For properties eligible under Criterion D, setting and feeling may not have direct bearing on the property’s ability to yield important information. Evaluation of integrity will probably focus primarily on location, design, materials, and perhaps workmanship (National Register Bulletin 1990: 49).

An historic context is a collection of information organized by theme, place and time that assists in the National Register eligibility assessments for resources fifty years or older. Each resource identified as part of the historic structures survey will be evaluated for the National Register within the state historic contexts established in the Delaware Comprehensive Historic Preservation Plan, Delaware Historic Context Master Reference and Summary, and all applicable federal guidelines.

Chronological periods addressed in the report include the following:

- 1630-1730±, Exploration and Frontier Settlement
- 1730-1770±, Intensified and Durable Occupation
- 1770-1830±, Early Industrialization
- 1830-1880±, Industrialization and Early Urbanization
- 1880-1940±, Urbanization and Early Suburbanization
- 1940-1960±, Suburbanization and Early Ex-urbanization

No above-ground historic resources have been identified within the APE for the periods 1630-1730, 1770-1830, and 1830-1880. The historic context for this study includes general information on each period in order to create a more complete understanding of the development of the project study area. Based upon field investigations, background research, and historic context development, the following themes are associated with historic resources identified as part of the BR 159 James Street over Christina River project: Manufacturing; Transportation and Communication; and Architecture, Engineering, and Decorative Arts

2.6 DelDOT’s Geographic Information System (GIS) Transfer Protocol

In March 2005, DelDOT established its *Cultural Resources Survey GIS Data Transfer Protocol* (Version 7) for use by all of its cultural resources consultants. The protocol established standardization in the packaging, naming, and transmission of Cultural Resource Survey (CRS) data to the Delaware Department of Transportation (DelDOT). CRS data will be formatted and submitted in compliance with DelDOT’s Geographic Information System (GIS) infrastructure. The final dataset to be delivered to DelDOT will include an ArcGIS personal Geodatabase (GDB). The GDB consists of four Feature Classes and 15 GDB tables. The spatial location and attribute data for cultural resources will be housed in the Feature Classes, while the GDB tables provide the codes and code descriptions used in data entry. The finalized GIS database prepared for this project will be forwarded to DelDOT for delivery to the DESHPO at a future date.