THE SOUTHERN NEW CASTLE COUNTY SCENIC RIVER AND HIGHWAY STUDY

New Castle County
Department of Land Use
This publication is the most recent in a series of studies that have been compiled to catalog New Castle County’s scenic and historic resources.

Christopher A. Coons, County Executive

County Council
Paul Clark, President

Joseph M. Reda, District 1
Robert S. Weiner, District 2
William J. Tansey, District 3
Penrose Hollins, District 4
Stephanie A. McClellan, District 5
William E. Powers, Jr., District 6

George Smiley, District 7
John J. Cartier, District 8
Timothy P. Sheldon, District 9
Jea P. Street, District 10
David L. Tackett, District 11
James W. Bell, District 12

Charles L. Baker, General Manager, Land Use Department
The Southern New Castle County Scenic River and Highway Study

Prepared by
The New Castle County Department of Land Use
New Castle County, Delaware

In conjunction with
Gaadt Perspectives, LLC
Chadds Ford, Pennsylvania

Historic resource information and analysis provided by
Center for Historic and Architectural Design (CHAD)
University of Delaware

Support provided by
Wilmington Metropolitan Area Planning Council (WILMAPCO)
New Castle County

January 2008
Introduction and Executive Summary

PURPOSE
The Southern New Castle County Scenic River and Highway Study follows in the tradition of similar studies executed for the Brandywine and Red Clay Valleys north of the C&D Canal. The intent of this study, as with the prior efforts, is to further the County’s growth management planning process by inventorying, interrelating and reinterpreting many of the resources discussed in the County’s Comprehensive Development Plan Updates. The Study goes on to suggest a variety of means by which to protect such resources – natural, historic, and scenic (including scenic roads). The result is a plan that can be used in conjunction with the County Comprehensive Plan Update, as well as with other planning efforts such as the Greater Route 301 MIS study, the Southern New Castle County Circulation planning process, and local municipal plans, to advance the growth management and transportation planning processes in Southern New Castle County.

Perhaps the most basic purpose of this study, as with its predecessors, is to familiarize or reacquaint Southern New Castle County residents, and those elsewhere in the County, with the qualities and character inherent to this area. A study such as this, in essence a “slice in time”, helps document a unique set of circumstances singular to one place. Most importantly, however, public awareness of the historic, scenic and natural resources that together form the core components of the character of this place, and which have long been revered, will help heighten interest in future preservation.

LOCATION
Southern New Castle County includes all land in the County south of the C&D Canal and is approximately 190 square miles, representing 44% of the total area of the County. It lies within the Atlantic Coastal Plain and is relatively flat with major concentrations of prime agricultural soils and critical clusters of both tidal and fresh water wetlands. From a regional perspective, the following counties surround the study area: Cecil and Kent Counties, MD to the west and Kent County, DE to the south. The eastern boundary of the study area is the Delaware River (see Figure 1). Included within the study area are three municipalities – Middletown, Odessa and Townsend – all of which have comprehensive development plans that call for various levels of development. The most extensive of these is Middletown – in large part due to recent annexations, this community has future potential for residential, commercial and industrial uses.
STUDY METHODOLOGY
Like its predecessors, this report is comprised of four main sections. These sections are: Part 1, The Southern New Castle County Planning District in New Castle County; Part 2, Resource, Land Use, and Traffic Management Issues; Part 3, Priorities for Resource Protection; and Part 4, Achieving Resource Protection Objectives.

The beginning of Part 1 documents current conditions in Southern New Castle County with respect to land use and public infrastructure (chiefly transportation, wastewater facilities and water supply). The balance consists of detailed inventories of the historic, scenic and natural resources of Southern New Castle County, including GIS maps. These inventories form the basis for the resource protection priorities discussed in Part 3.

Part 2 examines the resource management issues facing the study area in light of a changing development pattern. Issues range from resource protection to agricultural retention to transportation and traffic management.

Part 3 goes through the process of prioritizing and targeting those resources (or concentrations of resources) that are in most need of short-term protection. Initially, the resource inventories are reviewed and composited to reaffirm important resources and illustrate where resources converge or concentrate.

This set of protection targets is further refined by eliminating certain “givens” (lands developed, lands committed to development, and public lands) and identifying properties under institutional ownership. A final factor is the amount and location of vacant land expected to be developed or known to be under development pressure (areas targeted for growth, areas where infrastructure exists, etc.); for the most part, this equates to the investment strategy mapping adopted by the state, County, and WILMAPCO (and which is somewhat synonymous with the County’s identified sewer service area).

The result of this process is a composite of resources considered first-priority targets for protection. These targets consist principally of stream corridors and their riparian buffers, selected scenic road corridors, and high quality natural, scenic and/or historic resource areas or areas of resource concentrations.

In Part 4, a variety of techniques for resource protection are described in the context of Southern New Castle County. Some of these techniques are also described in the County’s 2007 Comprehensive Development Plan Update and are partially reflected in the County’s Unified Development Code (UDC). Among the techniques discussed are: zoning and related land use controls; site planning and conservation design techniques; private land stewardship actions; historic resource protection measures; transportation planning considerations (principally road planning); and interagency cooperation.
The Southern New Castle County Scenic River and Highway Study also includes inventory maps of scenic, historic and natural resources, maps of prioritized resources and scenic roads, and appendices containing a detailed inventory of historic resources, a roster of visual accents, vista points and visual intrusions, and details of a recommended scenic road network.
# TABLE OF CONTENTS

## INTRODUCTION AND EXECUTIVE SUMMARY

| Introduction and Executive Summary | 4 |

## PART 1

### Southern New Castle County

| 1.1 Land Use and Public Infrastructure | 10 |
| 1.2 Historic Resources Inventory | |
| 1.3 Scenic Resources Inventory | |
| 1.4 Natural Resources Inventory | |

## PART 2

### Resource, Land Use, and Traffic Management Issues

| 2.1 Historic, Scenic, and Natural Resource Protection | 79 |
| 2.2 Agricultural Issues | |
| 2.3 Traffic Management Issues | |
| 2.4 Sewer and Water Infrastructure | |
| 2.5 Inter-Agency Cooperation | |

## PART 3

### Priorities for Resource Protection

| 3.1 Refinements to the Resource Inventories | 94 |
| 3.2 Composite of Significant Resources | |
| 3.3 Committed and Protected Lands | |
| 3.4 The Scenic Road Network | |
| 3.5 First-Priority Resource Protection Targets | |

## PART 4

### Achieving Resource Protection Objectives

| 4.1 Public Regulation and Site Planning Techniques | 107 |
| 4.2 Public Purchase and Private Land Stewardship Options | |
| 4.3 Historic Resource Protection | |
| 4.4 Transportation Planning | |
| 4.5 Coordination and Management Among Public Agencies | |

## APPENDICES

| Appendix 1 – Visual Accents, Vista Points and Visual Intrusions | 120 |
Appendix 2 – Standing Properties in Designated Scenic Views
Appendix 3 – Demolished Properties in Designated Scenic Views
Appendix 4 – Scenic Roads in Southern New Castle County
Appendix 5 – Selected References

FIGURES
Figure 1 - Study Area
Figure 2 - Uncommitted Land
Figure 3 – Geographic Zones
Figure 4 – Delaware Map of Hundreds
Figure 5 - Historic Resources
Figure 6 - Scenic Resources
Figure 7 - Natural Resources
Figure 8 – Composite Map of Historic, Scenic & Natural Resources
Figure 9 - Ownership Status
Figure 10 - First Priority Resources for Protection

TABLES
Table 1 – Southern New Castle County Demographics
Table 2 – Properties in the Study Area That Appear in the National Register
Table 3 – Properties Listed in the National Register That are Standing and Fall Within Scenic Viewsheds
PART 1

Southern New Castle County
1.1 LAND USE AND PUBLIC INFRASTRUCTURE

1.1.1 Introduction
The rural and scenic quality of Southern New Castle County has long been an inspiration to residents of the area. Its scenic beauty is also something that is frequently noted by motorists traveling to Delaware’s beaches. Taken as a whole, the character of this area is a significant amenity and substantially contributes to the quality of life for the entire county. Among other things, Part 1 provides an inventory and accompanying analyses of the natural, scenic, and historic resources that contribute so much to the character and quality of this portion of the County.

In addition, Part 1 examines current land use trends in Southern New Castle County and the public infrastructure investments that have accompanied it. The intent is to provide readers with an understanding of the nature and magnitude of the development that has taken place in this portion of the County, as well as an understanding of what is anticipated in the future.

Overall, Part 1 underscores the importance of managing growth in Southern New Castle County in a manner that is respectful to and compatible with the natural, scenic, and historic resources present in the study area. The key to maintaining and preserving the quality of life is to manage the relationship of the built environment to the natural environment. Perhaps the best test of the effectiveness of this strategy will be whether the County can accomplish a seamless weaving of the scenic and rural landscape with new homes and businesses to form a harmonious town and country landscape.

1.1.2 Population / Growth Pressure
Southern New Castle County and the Route 40 corridor are the two major growth areas in New Castle County and, as the amount of land available for development north of the Chesapeake & Delaware Canal has decreased, Southern New Castle County has faced increasing development pressure. Repeated annexations by the Towns of Middletown and Townsend have significantly increased the size of the towns, and will likely result in suburban development eventually encircling these existing towns. At the same time, New Castle County has established a publicly-sewered area generally north of Middletown to attract growth away from the agriculturally and environmentally significant regions to the south, and to reduce the threat of groundwater contamination generally associated with homes on septic systems.

Growth pressure facing Southern New Castle County can be quantified in a number of ways. The U.S. Census reports that the numbers of persons, homes, and population density in Southern New Castle County have been growing at an increasing rate over time. Population density, or the number of persons per square mile, has also been growing at an increasing rate across the past four decades, with similar rates for housing and population.
Table 1 - Southern New Castle County Demographics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>190.14</td>
<td>49</td>
<td>53</td>
<td>69</td>
<td>98</td>
<td>156</td>
<td>227</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7%</td>
<td>30%</td>
<td>42%</td>
<td>59%</td>
<td>45%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>9395</td>
<td>10040</td>
<td>13187</td>
<td>18578</td>
<td>29682</td>
<td>43123</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7%</td>
<td>31%</td>
<td>41%</td>
<td>60%</td>
<td>45%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>3028</td>
<td>3101</td>
<td>4454</td>
<td>6225</td>
<td>9564</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>44%</td>
<td>40%</td>
<td>54%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For example, population density increased by only 7 percent from 1960-1970, by 30 percent from 1970 to 1980, by 42 percent from 1980-1990, and by 59 percent from 1990-2000. The Delaware Population Consortium reports that the population south of the C & D Canal is likely to increase by almost 45 percent between 2000 and 2020 from 29,682 to 43,123 persons. The number of persons per square mile south of the C & D Canal is projected to also increase by about 45 percent from 156 in 2000 to 227 persons per square mile in 2020.

Another growth indicator, “housing starts,” as measured by residential building permit activity, steadily increased for The Middletown-Odessa-Townsend (MOT) Planning District throughout the 1990s and into the 2000’s. And in recent years, the MOT Planning District has become one of the highest districts for number of permits for new homes countywide, similar in fact to the Central Pencader Planning District, which includes the RT 40-Glasgow area.

1.1.3 Land Use Pattern
Historically, the predominant land use south of the C & D Canal had been agricultural with residential land uses clustered around towns and at crossroads. With the adoption of the County’s first zoning code in 1954, the bulk of lands south of the C & D Canal were zoned low-density residential (2-acre lots). At that time, 2-acre zoning was considered appropriate for a stable agricultural community; it was anticipated that as the County grew, zoning in Southern New Castle County would be modified to reflect changing conditions.

Gradually, residential land uses have been replacing agricultural ones in this area, as changing farming practices and the economic reality of farming have revolutionized the farming industry, and increased mobility has contributed to suburbanization.
Prior to the adoption of the Unified Development Code in December of 1997, the bulk of the lands in Southern New Castle County were zoned R-2 (2-acre lots) with some commercially zoned land along the major road frontages. A similar zoning pattern was adopted with the UDC; however, parcels within the Southern Sewer Service Area (SSSA), generally north of Towns of Middletown and Odessa, were rezoned to one dwelling unit per acre [Suburban (S) zoning]. Parcels outside of the SSSA boundary were rezoned to one dwelling unit per five acres [Suburban Reserve (SR) zoning] with reliance on on-site septic systems to treat wastewater. Lands zoned for commercial/office or industrial use are distributed predominantly in the SSSA where existing and planned infrastructure exists to service such uses.

The intent of the County’s rezoning strategy was to encourage development in the SSSA and discourage development outside this area, essentially a growth management approach designed to promote growth in those areas where infrastructure exists to support it. Similar growth policies were adopted by WILMAPCO and the State of Delaware to support this approach.

In order to encourage a variety of housing types, the County’s UDC provides for various open space developments, villages, hamlets and transfer of development rights (from the SR to S district).

In addition to agricultural, residential and some commercial uses, Southern New Castle County has several large institutional uses, state lands and nature preserves. Perhaps the most significant institutional use in Southern New Castle County is St. Andrew’s School, which has land holdings totaling approximately 2,100 acres.

Significant open land is found in two principal areas: along the Delaware River, including large areas of the Cedar Swamp (which are owned and protected by the State of Delaware and Delaware Wild Lands, Inc.) and in the southwestern portion of the study area (significant forest land preserved as part of the Blackbird State Forest).

A general summary of the current land use pattern in Southern New Castle County is depicted in Figure 2. Uncommitted lands (with acreages), developed lands, and pending plans provide an overview of the current development pattern in this part of the county.
1.1.4 Infrastructure

1. Water Supply & Wastewater Management

New Castle County has responded to the growth trend in Southern New Castle County, and the increasing threat to groundwater quality from the proliferation of septic systems, by establishing the Southern Sewer Service Area (SSSA). A significant benefit to constructing public sewer infrastructure within the defined service area is the protection of groundwater quality, which is the sole source of drinking water for the Middletown, Odessa, and Townsend (MOT) area. A defined public sewer service area will also attract some of the development pressure facing land outside of the Southern Sewer Service Area (SSSA) boundary, which contains many valuable scenic, agricultural, and environmental resources. As of the release date of this study, New Castle County has two “water farms” that provide spray irrigation wastewater treatment. It is quite possible that these facilities can provide some recreational opportunities for area residents, in addition to Wiggins Mill Park, which was recently expanded to provide additional active and passive recreational options for residents of Southern New Castle County. In addition, the Port Penn wastewater treatment plant provides for the wastewater needs in Port Penn and Middletown maintains its own sewage treatment system.

The county’s current thinking with regards to sewer service within the SSSA is to provide needed infrastructure through the Capital Budget over time. Areas of prioritization have been identified according to planning/growth policies and need and service will be added as funds become available.

On-lot septic systems often leach nitrates and other contaminants into the soil, which can filter through pervious subsurface geology to contaminate the underlying aquifers. In addition, agricultural operations, due to their reliance on fertilizer and herbicides, and due to the production of animal waste, also leach contaminants into the vulnerable shallow and deeper unconfined aquifers. Groundwater contamination occurs when contaminated runoff percolates through the permeable subsurface geology to the shallow and deeper unconfined aquifers. Groundwater monitoring data from the mid 1990s has confirmed nitrate and herbicide contamination in the shallow and the unconfined deeper aquifers in Southern New Castle County.

Currently, potable groundwater is provided by three major water utilities in Southern New Castle County: Artesian Water Company, Tidewater Utilities, and the Town of Middletown within its municipal boundaries.

2. Transportation System

The transportation system in southern New Castle County is comprised primarily of rural local roads, many of them below the State and ASSHTO standards for safe and adequately designed facilities. The area is served by one expressway, SR 1 (toll road) which connects I-95 with Dover and points south and uses four interchanges to connect with arterial roads in southern New Castle County. An additional interchange
between Townsend and Smyrna was originally planned as part of the final phase but has not been constructed.

Two other primary arterial roads serve this area of the County: US 13, the major north-south arterial highway on the Delmarva Peninsula that largely parallels SR 1 through Southern New Castle County, and US 301/SR 896 which connects Middletown to Maryland and the Bay Bridge. This area also includes two minor arterials: SR 299, which connects Middletown with Odessa, and SR 71, which connects Middletown with Townsend. The four major collectors serving southern New Castle County include: SR 9 between Reedy Point and Flemmings Landing on the Kent County Line, NC 25 between Caldwell Corner and Pine Tree Corner, and Caldwell Corner and Smyrna. The later comprises segments of SR 15, which zigzags north/south on the western side of New Castle County near the Maryland Line.

Several minor collectors and numerous local roads crisscross the study area. Many of these roads are geometrically substandard; however, they are considered very picturesque.

DART First State, a division of DelDOT operates intercounty bus service between Wilmington and Dover. Six park-and-ride lots are located along this intercounty route.

Norfolk Southern Railroad provides freight service to this area of the County, and continues south into the Delmarva Peninsula.

Much of the existing road network in Southern New Castle County is substandard both in terms of safety and construction. Many of the existing roads were constructed from rural farm roads by simply adding hot asphalt mix to the existing farm roads without first laying a crushed-stone base. The emerging challenge is how to retrofit existing roads in Southern New Castle County for safety and design without destroying their rural and scenic character. Among other things, “traffic calming” roadway design measures may be one way to reduce vehicle speeds and restore a more rural perception of the area in the minds of motorists and pedestrians.

3. Traffic Volumes and Patterns

In recent years, traffic has increased significantly on the higher order of roadways, and in several locations on some of the minor collectors and local roads. Typically, DelDOT identifies areas within the state that provide insight for traffic volume trends. Referred to as “cutlines,” such areas intersect roadways and offer an Annual Average Daily Traffic (AADT) count from DelDOT’s Traffic Summary Reports. Cutlines were evaluated at the onset of this study and are shown here to indicate an upward trend that extends from 1990 through 2000 and beyond.
North-South Traffic: This movement in southern New Castle County can be measured along four cutlines, I-IV. Cutline I or the C&D Canal in New Castle County can be crossed at four locations in Delaware. Between 1990 and 2000 traffic crossing this line increased 61%. By the mid 2000’s, it carried over 89,000 vehicles daily. The opening of the SR 1 Bridge has had a significant effect on both the US 13 (St. George’s) Bridge and Reedy Point (Delaware City) Bridge. These roads carry 82% and 50% respectively fewer vehicles today. Although the new bridge carries the greatest daily volume across the Canal (over 60,000 vehicles daily), DE 896 shows the greatest increase (83%) over the decade leading into the new millennium. This could be a function of both an increase in development just south of the Canal in the Summit area, and an increase in traffic on US 301 (an alternate to I-95).

Cutline II is located just north of Middletown and Odessa and shows traffic increased 42% between 1990 and 2000, and by the mid-2000’s carrying over 77,000 vehicles daily. Here too, the opening of SR 1 has had a significant effect on reducing traffic on SR 9 (by approximately 33%).

Cutline III is located south of Middletown and Odessa and showed a 33% increase between 1990 and 2000, carrying almost 65,000 vehicles daily. Comparing total volumes for Cutlines I and III showed a 24,000 difference. This difference is significant and corresponded to the amount of traffic entering the network between the cutlines. This is attributed to the increase in development in this area of southern New Castle County.

Cutline IV is located just north of the Kent County Line and showed a 43% increase between 1990 and 2000, carrying close to 50,000 vehicles daily. Almost 39,000 fewer trips cross this line than Cutline I. This difference could be attributed to traffic entering the network via US 301 in Maryland.

Cutline V, located in the center of southern New Castle County, was placed so that east-west traffic movement could be measured. Traffic volumes increased 46% between 1990-2000 to almost 21,500. Of this total more than 14,800 vehicles were using Mt. Pleasant-Boyd’s Corner Road (US 301-DE 896). All in all, traffic more than doubled (107%) on this road during this period.

Highway Congestion:
Level Of Service (LOS) is a measure of congestion with “A” being the best or free flow conditions with higher speeds and maneuverability, whereas “F” is the worst condition typical of forced flow, stop and go traffic with no maneuverability. Generally speaking the Cutline analysis showed that the network of major roads in Southern New Castle County were operating at fair levels based on an average daily volume. This does not mean; however, that all-major highways were operating at good levels of service. There may be segments that operated poorly.
Intersection Delay:
Many of the intersections in southern New Castle County are controlled by stop signs; however, as traffic volumes increase, more intersections are meeting signal warrants.

Currently there is no method to determine total intersection delay for unsignalized intersections, which are the majority in southern New Castle County. Delay at two-way stop sign controlled intersections is measured by approach lane and the delay associated with finding a gap in the flow of traffic.

Physical Characteristics: Alignment and Geometric Problems:
Many of the local and collector roads in southern New Castle County are substandard, basically designed for rural traffic and farm equipment. Many are below state and federal standards for safe and adequate facilities. Most have horizontal sight distance problems, limited shoulders, and narrow travel lanes. Some have poor alignments and unacceptable pavement conditions. Stream crossings are often over narrow one-lane bridges, many of which lack adequate foundations. Some roads meet at offset intersections and should, for safety reasons, be realigned into four-way intersections. At present, most of these collectors are operating at an acceptable LOS. However, this has changed in recent years due to an increase in local residential development. In many instances, the existing road network is not capable of handling the additional trips being generated by current construction activity in this area.

4. Transit
Southern New Castle County has limited bus service provided by DART First State and operated by the Delaware Transportation Corporation, a division of DelDOT. Service is routed on SR 1 serving Wilmington to Dover commuters. DART has made major investments in large well-designed park-and-ride lots located just off these interchanges.

1.1.5 Conclusion
The Southern New Castle County study area has experienced considerable growth in the last thirty years. Given current projections, growth will continue at a fast pace. The main issue is whether such growth will continue to be land-intensive or whether it can be accommodated, directed, and designed in ways that maximize compatibility with and preservation of the historic, scenic and natural resources in the study area.

Although the UDC permits agriculture in every zone as a matter of right, the persistence of intensive agricultural land uses within the Southern Sewer Service Area (SSSA) is questionable over the long term. At the same time, there is a growing consensus that the rural and scenic character of the area should be preserved, and even incorporated into the design of new communities. Land within the Southern Sewer Service Area is expected to
build out at a suburban density of about one dwelling unit per acre. As a result, significant vistas and visual amenities should be more critically prioritized within this area because the likelihood of development and eventual build-out is high.

Land outside of the sewered area falls primarily in the Suburban Reserve District. This district, which contains roughly 80,000 acres, prescribes low density development suitable for agricultural preservation. Coupled with improved provisions for transfer of development rights and other incentives, the County’s intent is to encourage further agricultural preservation. One of the County’s objectives in downzoning this land to 5-acre lots was also to encourage further preservation action on the part of Delaware’s Agricultural Lands Preservation Foundation. Regardless of the incentives for preservation, this area is also experiencing some development pressure as home builders seeking to avoid the sewer impact fees associated with the SSSA construct homes with on-lot septic systems.

Other options utilized in the County’s comprehensive planning over the years included the expanded use of conservation design and open space subdivision development options, which have preserved more open space and discouraged the proliferation of land consumptive development throughout Southern New Castle County. Increased open space set-asides afforded by these options have also presented greater opportunities for interconnecting open space between subdivisions, establishing greenways for community recreation, maintaining contiguous habitat for wildlife, and preserving scenic vistas along country roads.

Recent thinking, as described in detail in the County’s 2007 Comprehensive Plan Update, is to centralize new development in a zone north-central of Middletown referred to as the New Community Development Zone. This zone is anticipated to accommodate the majority of all new development in SNCC with medium residential density and mixed use centers. It is projected that such a zone will meet the residential growth needs of this portion of the county and provide opportunities for improved transportation (particularly transit).
1.2 HISTORIC RESOURCES INVENTORY

1.2.1 Methodology

The historic resources component of this study consists of several parts:

1. Development of a map of all of the documented cultural resources in the study area;
2. A windshield survey of all of the cultural resources documented in the study area to determine the current status of those resources;
3. Identification of those resources that fall into zones designated as “scenic” within the study area as determined by criteria defined in other parts of this report;
4. Determination of eligibility for the resources within those zones that are not already listed on the National Register of Historic Places;
5. Development of historic contexts that might provide significance for the identified cultural resources; and
6. A statement regarding proposed protection methods for those resources identified in this study.

Beginning in September of 1999, staff initiated a windshield survey of most of the roads in southern New Castle County using a DelDOT map with an overlay of cultural resource locations by CRS number. Focusing on rural roads outside of towns such as Middletown and Odessa, this survey attempted to confirm the current status of the documented cultural resources located in this part of the county. Boundaries for the survey were the C & D Canal to the north, the shore of the Delaware River to the east, the Delaware/Maryland state line to the west, and the New Castle/Kent County line at the south. This area included Appoquinimink, St Georges, Blackbird and a small portion of Pencader hundreds.

Five trips and over 500 driven miles generated an annotated map of the standing cultural resources in the southern New Castle County study area. A database of all of the CRS numbers and information related to the resources was compiled and is included in the appendices. Overlaying the survey map on the scenic resource inventory map yielded descriptions of surviving cultural resources found along roads designated as scenic. Areas where additional survey should be planned, and cultural resources that have disappeared along these scenic roads, are also mentioned.

The information in this report is based on a compilation of research to-date on historic resources in southern New Castle County. Some historic resources in this area do not have CRS numbers and some CRS files are inaccessible or incomplete. Many of the CRS surveys were conducted over a 20 year time span and there are gaps in the documentation. These gaps are noted wherever possible so that the scope of additional research can be defined for future projects.

Many of the extant cultural resources affiliated with the scenic resource inventory have been identified as potentially eligible for the National Register of Historic Places in studies previously conducted in the area. Some of the resources used to provide
descriptions of many cultural resources, as well as generate context for the area included highway surveys conducted for the expansion of Route 13 and the 301 Corridor, successful National Register District nominations like Rebuilding of St. Georges Hundred, Dwellings of the Rural Elite, and the compiled nomination for Levels Historic District.

1.2.2 Historic Resources

1. Historic Preservation Planning in Delaware
In order to integrate preservation planning into overall planning methods, the State of Delaware developed the Delaware Comprehensive Historic Preservation Plan (Delaware Plan). The plan outlines priorities and goals for preservation activities and includes historic contexts for geographic regions within the State. The historic context research for this study utilizes the framework established by the Delaware Plan.

The Delaware Plan uses historic contexts as the basis for preservation planning. Defined as “an organizational format that groups information about historic properties, based on theme, geographic limits and chronological period…,” historic contexts provide for uniform evaluation of historic resources in relation to patterns in history, as well as a basis for determining significance of resources on an individual as well as comparative basis (Federal Register, 9/29/83, p. 44716). Another part of the historic context framework is the identification of property type for the resource being evaluated. A property type is defined as a group of historic resources that share particular associative or physical characteristics. These characteristics link the theoretical historic context to the actual historic resource being evaluated.

2. Historic Theme
The Delaware Plan describes 18 historic themes based in social, cultural, and economic activities that would have resulted in the creation of various types of resources on the landscape. The themes from the Delaware Plan are as follows:

1. Agriculture
2. Forestry
3. Trapping and Hunting
4. Mining and Quarrying
5. Fishing and Oystering
6. Manufacturing
7. Retailing and Wholesaling
8. Finance
9. Professional Services
10. Transportation and Communication
11. Settlement Patterns & Demographic Changes
12. Architecture, Engineering & Decorative Arts
13. Government
14. Religion
15. Education
16. Community Organizations
17. Occupational Organizations
18. Major Families, Individuals, and Events

3. Chronological Period
The Delaware Plan uses a series of historical periods that approximate cultural trends and changes in Delaware’s material history. This chronological framework regularizes period dates into roughly fifty-year blocks and are listed below.
A. 1630–1730 +/- Exploration and Frontier Settlement
B. 1730–1770 +/- Intensified and Durable Occupation
C. 1770–1830 +/- Early Industrialization
D. 1830–1880 +/- Industrialization and Early Urbanization
E. 1880–1940 +/- Urbanization and Early Suburbanization

Each period is followed by a +/- notation to indicate that these dates are not rigidly set.

4. Geographic Zone
Geographic zones in the Delaware Plan are defined by physical land characteristics such as geology, drainage, soil types, and native flora and fauna. The Delaware Plan breaks the state into 5 zones: Piedmont, Upper Peninsula, Lower Peninsula, Coastal and Urban. Locations of these zones are shown in Figure 3.

The Piedmont is the northernmost area of the state and has a rolling hilly landscape with an abundance of small streams and rocky clay soil that is well suited for agriculture. The Upper Peninsula zone is the largest zone in the state, falling across the center of the state. This zone is characterized by coarser sandy soils and a more gently rolling landscape with many large waterways. The Lower Peninsula zone has sandier soil and is home to a large cypress swamp as well as many small streams and ponds. The Coastal zone stretches the length of the state and includes fresh and salt water beach areas. The Urban zone includes the city of Wilmington.
Figure 3: Geographic Zones

I Piedmont
II Upper Peninsula
III Lower Peninsula/Cypress Swamp
IV Coastal
V Urban
1.2.3 Historic Contexts for the Study Area and a General History of the Region

The study area for this report is the portion of New Castle County falling below the Chesapeake and Delaware Canal, identified as the Upper Peninsula zone in the Delaware Plan. The Upper Peninsula zone is bounded to the north by Route 2 and extends south through New Castle, Pencader, Red Lion, St. Georges, Appoquinimink, Blackbird, Duck Creek, Little Creek, Kenton, East Dover, West Dover, North Murderkill, South Murderkill, and Milford Hundreds to the Sussex County line. The region surveyed in this report includes St Georges, Appoquinimink and Blackbird Hundreds. Soils in this area are rich and well-drained, and the topography ranges from level to gently rolling. One area with particularly good soils is referred to as “The Levels”. Historically, the Upper Peninsula zone contains many waterways. In the past, these were navigable and connected inland towns. Many of these waterways exist still today and, though typically silted beyond navigable depths, still contribute to the historic character of the scenic landscape.

The rich soils and gentle topography make this zone well-suited to agriculture, and Agriculture is the primary historic theme in the study area. Secondary themes addressed in this report include Settlement Patterns and Demographic Changes; Transportation and Communication; Architecture, Engineering and Decorative Arts; and Major Families, Individuals, and Events.

The time period for the resources in the study area fall into the last three chronological periods outlined in the Delaware Plan, 1770–1940, with most of the resources dating from 1830.

Historic contexts have been generated by CHAD for previous development projects in this region, and these provide detailed information for this study’s context. These contexts include three thematic National Register nominations, two historic contexts, and a cultural resource survey: Dwellings of the Rural Elite (NR), The Rebuilding of Saint Georges Hundred (NR), The Levels Historic District (NR), Agricultural Tenancy in Central Delaware (context), Dairy Farming in Central Delaware 1840–1940 (context), and A Cultural Resource Survey of the Proposed Route 301 Corridor, New Castle County, Delaware (CRS). In addition to these documents, studies generated by other agencies were also used to generate the context for this report: The Red Clay Valley Scenic River and Highway Study (NCC), A Cultural Resources Reconnaissance Planning Study of the Proposed Rt. 13 Relief Corridor, New Castle and Kent Counties, Delaware (DELDOT), and the Delaware Historic Bridges Survey and Evaluation (DELDOT).

Organized by chronological period, the following is a brief history of the study area and the surrounding region, concentrating on the historic themes from the Delaware Plan identified for this area.
1630–1730+/- Exploration and Frontier Settlement

There was little settlement in the Upper Peninsula region prior to 1680. Most settlement was concentrated along the coastline or in the vicinity of the present-day towns of New Castle and Wilmington. From 1680–1730, settlement of the area was encouraged by William Penn and was composed of a primarily British population. There were many large land holdings often associated with land grants administered by Maryland courts that were later disputed and caused great confusion over land ownership. The overall pattern of settlement during this period was sporadic and developed along transportation routes. Construction practices were typically impermanent up through 1700 when more durable residences began to appear on the landscape. Building technology and architectural styles of these durable houses reflected the application of local developments rather than “Old World” European antecedents that had been used in previous decades. Agriculture was the primary economic activity among the early settlers with cereals and livestock as the production crops of choice. Farm buildings were probably prevalent but remained impermanent in building technology, so none remain from this period.

1730–1770+/- Intensified and Durable Occupation

Settlement patterns in the region during this period remained consistent with the previous period but intensified in density. Several towns were developed along waterways to increase the access for ships that served the Atlantic trade routes (Odessa, Port Penn). The emergence of these towns created trends that supported the development of an economically scaled social class system. Wealth and occupation stratified the growing population, placing mill-owners, land-holders, and merchants at the top of the scale and tenant farmers, laborers, and slaves at the bottom. Increased capital also fueled new building projects and many durable buildings appeared on the landscape. Architectural style reflected the trend in social stratification with the introduction of the 1740’s Georgian hall-passage plan, initially commissioned by the growing upper class interested in defining new sets of market-oriented commercial relationships.

The area’s larger landholdings from the previous period began to be subdivided into smaller owner-occupied and tenant farms. Many farms began to produce surplus cereal crops and butter for market sale to larger towns and cities in the area. This was partially attributable to farmers clearing additional acreage on their properties for cultivation and leaving less for pasture and woodland. Increased capital appeared on farmsteads in the form of additional out buildings.

Rural industries such as mills and tanneries appeared and flourished. Income derived from the growing economy fueled a wave of consumerism. Merchants imported foreign commodities such as glass, ceramics and textiles for local sale. Several significant public buildings were commissioned and built.

1770–1830+/- Early Industrialization

A major change in settlement patterns in this area occurred during the early industrialization period. There was strong growth in the Dover area following the transfer of the state government from New Castle to Dover in 1777. Though slightly
south of the study area, the relocation of the governmental center for the state generated changes in population distribution, transportation development and economic trends throughout the central part of Delaware.

A strong network of roads developed in the study area during this period designed to connect Dover with the rest of the state. Many of the inland waterways used during the previous decades began to silt in and became impassable, leading to greater dependence on roads. The Chesapeake and Delaware Canal, opened in 1829, provided a connection between the Delaware River and the Chesapeake Bay and improved the movement of market goods from the farmland in central Delaware to the cities of Baltimore, Philadelphia, and Wilmington.

As landowners became more concerned with the productivity of their soil, there were new developments in agriculture including experimentation with crop rotation and field patterns. These activities produced the highest levels of wheat and dairy product yields in the state. Scientific developments in farming produced complex five- to nine-unit field patterns and agricultural outbuildings were designed and constructed for specialized needs. A dominant new class of farmers emerged who formulated the tenets of scientific agriculture, contractual labor relationships, industrialization of the farm, and the transformation of household organization. Rates of farm tenancy increased, as this new class of farmer typically owned more than one farm and leased out land to tenant farmers; slavery waned.

Between 1770 and 1900, at least half of the farms in central Delaware were occupied by tenant farmers. Tenancy represented an accepted and viable economic alternative to land ownership, and in many areas tenants fared better than their owner-occupant neighbors. Agricultural tenancy helped to shape the rural landscape in the 18th century and played a major role in the revival of the agricultural economy in the 19th century. Lease-stipulated improvements like fertilization and crop rotation increased the productivity of farmland left depleted at the beginning of the 19th century. Agricultural labor shortages were also eased by leasing out land to tenant farmers. Tenancy became a mutually beneficial method of land management and farm land maintenance for both residents and landowners in central Delaware.

The architectural development of the study area during this period was strongly influenced by a period of intensive building activity that resulted in increased numbers of durable houses. Based on Delaware Orphan’s court records, as many as one in four houses in this area were brick. Service wings began to be incorporated into the main blocks of dwellings. A significant component of this new architectural landscape was made up of the houses of the rural elite—landowners who were among the wealthiest of the taxable population and were involved in the market-based industrialized agricultural economy.

The dwellings of the rural elite represented a significant property type in the Upper Peninsula Zone. The architectural characteristics of these properties included large two-story houses typically of brick, often laid out in a center stair-passage plan. The interiors
of these dwellings consistently had paneled fireplace walls and open stairways with turned wood balusters and newels, finishes consistent with a hierarchy of private and social spaces. In 1989, a thematic National Register nomination, written by CHAD, contained ten dwellings of the rural elite. Several of the buildings on that list are included within the roadways designated as scenic within this study. These include Johnson Home Farm (N-4247), Windsor Farm (N-12738), Van Dyke Heath House (N-5891) and the Hill Island Farm (N-5898). Four others are located within the study area but are not within the scenic road designation areas, David Wilson Thomas House (N-6237), Green Meadow (N-6240), Brook Ramble (N-101) and Mount Jones (N-1503). These properties continue to contribute to the significance of the agricultural landscape and the developing upper class landowner of this period.

1830–1880+/- Industrialization and Early Urbanization
During these decades, the region saw strong agricultural reform, regional marketing, extensive architectural renewal, and the rise of a capitalist rural economy. Settlement patterns continued to reflect village growth and a typically uniform dispersal of farms across the landscape. The overall population in the region increased dramatically, both in developing towns and in rural communities. A railroad extended south from Wilmington to Middletown and into Dover, beginning to redefine the Upper Peninsula Area as the Wilmington back country. Small towns developed around railroad stops and earlier towns not located near the rails, as in the case of Port Penn, began to lose their commercial status.

The reorganization of the rural society that had developed in the previous era solidified in the middle decades of the 19th century. The number of actual landholders continued to decrease while individual landholdings increased in size. Tenancy rates on farms reached as high as 80 percent as the landed minority rented out land in the Upper Peninsula region during this time. The high percentage of farms occupied by renters left a mark on the architectural and cultural development of the area. Individual farms in the study area continued to be large (150 acres) and produced corn, wheat, and a great many dairy products. Fluid milk and butter were important products to farmers in the areas and increased with the improvement of transportation means to major markets. Bank barns were built on many farms to incorporate improvements to dairying technology.

In the latter part of the period, peach crops flourished in the study area. Further improvements in the means of transportation to major markets for these perishable fruits created great fortunes for many farmers in this region.

Although some rebuilding and architectural improvements were seen across the landscape, St. Georges Hundred saw extensive improvements in both farming practices and architectural design. Over the course of approximately 40 years, in the mid and latter half of the nineteenth century, nearly every house and farm building experienced repair and renewal. In a thematic nomination titled The Rebuilding of St. Georges Hundred, CHAD listed over 20 farms in the study area as eligible for the National Register. Several of these properties fall within the areas designated as scenic roadways. These include the S. Holten Farm (N-107), Choptank (N-109), A. M. Vail House (N-5211),
Okolona (N-5135), Rosedale (N-5148), Riverdale (N-5170), J. M. Gordon House (N-5176), and Achmester Farm (N-3930). Several of these properties have out-buildings surviving from this period that contribute to a common agricultural environment and form a significant rural historic district.

This period has the highest survival rate for cultural resources in the study area.

1880–1940+/- Urbanization and Early Suburbanization
Changes in this area occurred on several levels during these decades. Farm values dropped significantly in the 1880’s and during the depression of the 1890’s. Landowners holding as many as 20 farms in previous decades found themselves with less than half a dozen or completely dispossessed during this period. Greater commercialization in farming led to larger tracts for individual farms. Smaller farmers found it difficult to compete and many farms were lost. The area became less dependent on agriculture as new industries moved into the area, including the oil refineries located in the Delaware City area.

Early suburban development is not as prevalent in the study area as it was in the northern portion of this zone, but small bungalows and minor tract housing developments did occur within this region after the Second World War. Many of these buildings are not included in the cultural resource surveys conducted statewide in the 1970s and ‘80s but should be considered for survey today. Good examples of these 20th century buildings occur along scenic roads including Dexter Corner and Oliver Guessford Roads.

1.2.4 Results of the Survey
The focus of this study was on scenic, historic and natural resources of Southern New Castle County and their relationship to the rivers and roads in the area. Individual properties in rural settings are included in the survey. Although there are five National Register districts within the study area, these historic districts and resources located within town limits were not included in the windshield review.

The listed districts not included in this survey are:
   The Odessa Historic District (CRS N126)
   The Middletown Historic District (CRS N425)
   The Ashton Historic District (CRS N3932)
   The Port Penn Historic District (CRS N3928)
   The Townsend Historic District (CRS N10297)

Likewise, the resources within the following towns were not surveyed:
   Port Penn
   Summit
   Mt. Pleasant
   Odessa
   Middletown
Applying these criteria left a total of 969 individual resources on the Cultural Resource Survey (CRS) listed within the survey area. Of these, 385 resources are listed in Appoquinimink Hundred, 277 are in Blackbird Hundred, and 295 of the resources in the study area are located in St. Georges Hundred. Just over half of these (484 sites) are archaeological sites along the large areas of inland waterway in these Hundreds, a popular transportation method in the earliest periods of development in the study area. There are also 12 resources listed in the small portion of Pencader Hundred included in the study area. A map of the Hundreds in Delaware is shown as Figure 4.

Evaluating the survey in the southern portion of New Castle County placed historic resources into six categories. The abbreviation included at the end of each type is the notation used to identify an individual resource’s status in the database included in the appendices of this report.

1. Resources that are currently listed on the National Register of Historic Places (NR).
2. Resources that have been identified as Eligible (E) for the National Register based on the Criteria of Significance stated below and are listed in published studies conducted over the course of the last 20 years.
3. Properties that are Potentially Eligible for National Register status in that they have standing resources with some degree of integrity and significance (PE). These properties require further documentation and research to establish eligibility.
4. Properties that contain archaeological sites (AS).
5. Properties that have been declared Ineligible (IE) for National Register status by studies published over the last 20 years.
6. Properties that have resources that are no longer standing (NS).

An additional category of Bridge (B) indicates bridges located on Southern New Castle County’s roads, some of which are original, others of which have been refurbished or replaced.

National Register Status (NR)

68 Individual properties have been listed on the National Register.
1 Property has been formally determined eligible but has not been registered due to objections raised by the owner.
Figure 4: Delaware Map of Hundreds
All of these 69 properties are protected by the New Castle County Historic Zoning Ordinance, and 64 remain standing today. These properties have been evaluated for historic context, integrity, and significance in American history, architecture, archaeology, engineering and culture. The criteria of significance for listing in the National Register are as follows:

**Criterion A** Properties that are associated with events that have made a significant contribution to the broad patterns of our history; or

**Criterion B** Properties that are associated with the lives of persons significant in our past; or

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

**Criterion D** Properties that have yielded, or may be likely to yield, information important in prehistory or history.

Properties can be considered significant under one or more of the National Register criteria listed above. Most of the properties listed in the National Register in the survey area fall under Criterion A, representing the changes on the landscape due to sweeping reforms in agricultural technology and tenancy, and/or Criterion C as types of vernacular styles and construction techniques found in the Delaware agricultural landscape.

Listing in the National Register does not interfere with an owner’s rights to alter, manage or dispose of a property. According to Section 106 of the National Historic Preservation Act, projects funded or licensed by a federal agency must take into consideration the effects of the project on National Register properties or those deemed eligible for National Register designation. Managed by the National Parks service, the process of listing a property on the National Register requires review on local, state and national levels and is most often initiated on the local level.

Properties in the study area that appear in the National Register are shown in Table 2. National Register properties with standing resources make up only about 7% of the total number of cultural resources identified by this survey.
### Table 2: Properties in the Study Area That Appear in the National Register

<table>
<thead>
<tr>
<th>CRS Number</th>
<th>Property Name</th>
<th>Hundred</th>
<th>Status of Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>N 101</td>
<td>Brook Ramble</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 106</td>
<td>The Maples</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 107</td>
<td>S. Holten House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 109</td>
<td>Rhodes House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 113</td>
<td>Rumsey Farm</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 115</td>
<td>J. Shallcross House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 116</td>
<td>Sereck Shallcross</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 117</td>
<td>Cochran Grange</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 118</td>
<td>Hedgelawn</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 120</td>
<td>Williams House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 122</td>
<td>Noxon House Mill</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 123</td>
<td>A. S. Naudain</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 135</td>
<td>Old Brick Store</td>
<td>Blackbird</td>
<td>Standing</td>
</tr>
<tr>
<td>N 147</td>
<td>Dillworth House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 148</td>
<td>Hazel Glen</td>
<td>St. Georges</td>
<td>Not standing</td>
</tr>
<tr>
<td>N 150</td>
<td>Augustine Beach Hotel</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 152</td>
<td>Hart House</td>
<td>Blackbird</td>
<td>Standing</td>
</tr>
<tr>
<td>N 153</td>
<td>Fleming</td>
<td>Blackbird</td>
<td>Standing</td>
</tr>
<tr>
<td>N 154</td>
<td>Drawyers Church</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 214</td>
<td>Fairview</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 413</td>
<td>Eliason</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 417</td>
<td>Duncan Beard</td>
<td>Appoquinimink</td>
<td>Not standing</td>
</tr>
<tr>
<td>N 419</td>
<td>Huguenot House</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 423</td>
<td>Old Union Methodist</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 424</td>
<td>McDonough</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 427</td>
<td>Woodside/Clayton</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 432</td>
<td>Monterey</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 570</td>
<td>Clearfield Farm</td>
<td>Blackbird</td>
<td>Standing</td>
</tr>
<tr>
<td>N 1503</td>
<td>Mt. Jones</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 1623</td>
<td>Liston Range Lt</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3825</td>
<td>Hell Island</td>
<td>St. Georges</td>
<td>Not standing</td>
</tr>
<tr>
<td>N 3874</td>
<td>Archaeological Site</td>
<td>Appoquinimink</td>
<td>Not standing</td>
</tr>
<tr>
<td>N 3888</td>
<td>Ashton House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3930</td>
<td>Achmester</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3935</td>
<td>Biddle Farm</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3539</td>
<td>J. B. Nelson</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3944</td>
<td>Cleaver House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3947</td>
<td>Idalia Manor</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 3961</td>
<td>Congress Hall</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 4247</td>
<td>Johnson Home Farm</td>
<td>Blackbird</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5120</td>
<td>Reedy Island</td>
<td>Blackbird</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5123</td>
<td>Benj. T. Biggs</td>
<td>Pencader</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5135</td>
<td>Okolona (Cochran)</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5146</td>
<td>Armstrong Walker House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5148</td>
<td>Rosedale (Murphy)</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5155</td>
<td>Belleview</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5159</td>
<td>Misty Vale</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5165</td>
<td>S. Higgins Farm</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5176</td>
<td>J. M. Gordon</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5177</td>
<td>Vandergrift</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>CRS Number</td>
<td>Property Name</td>
<td>Hundred</td>
<td>Status of Resource</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------</td>
<td>----------</td>
<td>--------------------</td>
</tr>
<tr>
<td>N 5181</td>
<td>Elm Grange</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5193</td>
<td>Fairview</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5196</td>
<td>Old Ford Dairy</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5197</td>
<td>McWhorter</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5198</td>
<td>T. J. Craven House</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5201</td>
<td>Retirement–Vandergrift</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5209</td>
<td>J. Williams</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5211</td>
<td>A. M. Vail</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5225</td>
<td>B. F. Hanson</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5243</td>
<td>Choptank Upon the Hill</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5253</td>
<td>Mondoman</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5891</td>
<td>VanDyke</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 5898</td>
<td>Hill Island Farm</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 6193</td>
<td>Cornucopia</td>
<td>Pencader</td>
<td>Standing</td>
</tr>
<tr>
<td>N-6194</td>
<td>Fairview (G. Harber)</td>
<td>Pencader</td>
<td>Standing</td>
</tr>
<tr>
<td>N 6237</td>
<td>David Thomas House</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 6240</td>
<td>Green Meadow</td>
<td>Appoquinimink</td>
<td>Standing</td>
</tr>
<tr>
<td>N 12738</td>
<td>Windsor</td>
<td>St. Georges</td>
<td>Standing</td>
</tr>
</tbody>
</table>

*Hell Island (N 3825) was registered specifically as an Archaeological site.

Eligible (E) and Potentially Eligible (PE) Properties

25 Individual properties that were declared “Eligible” according to studies conducted over the past 20 years and are currently standing.

8 Individual properties that had been declared “Eligible” according to in depth studies over the past 20 years and have been demolished.

230 Individual properties that are currently standing and appear to be “Potentially Eligible” for listing in the National Register. Further research and survey would be required to fully determine the eligibility of these sites.

Ineligible (IE) Properties, Archaeological Sites (AS), and Properties Without Standing Resources (NS)

618 Individual sites listed in the Cultural Resource Survey within the study area that either have been demolished or have been deemed ineligible in studies conducted within the past 20 years.

Although over three-fourths (78%) of the properties listed in the category above are archaeological sites listed in the CRS files for their potential information regarding history and prehistory in the region, many other sites contained buildings that have been demolished within the past 25 years.

Figure 5 graphically portrays the wealth of historic resources documented herein.
1.3 SCENIC RESOURCES INVENTORY

1.3.1 Introduction
This section of the Southern New Castle County Scenic River and Highway Study is intended to present an inventory of the scenic resources that currently exist within the Southern New Castle County study area. In addition to the wealth of resources shaped by nature, this section expands upon those dimensions of the landscape that are the result of human activity. These activities are the construction of transportation systems and buildings that have, over time, helped shaped the character of Southern New Castle County. It is, therefore, an inventory of those areas of Southern New Castle County that, through a combination of man-made and natural resources are significant visually. The purpose of this inventory is to identify those areas that are valuable as a visual or scenic resource and are worthy of protection.

While most land use regulatory programs traditionally have done little to protect scenic resources, and New Castle County’s is no exception, it has become apparent recently that the visual qualities of a community are significant as one of many elements that give that community its character. Moreover, the preservation and protection of community character is an essential element of a community’s quality of life.

While some people may argue that the aesthetic qualities of a landscape are purely subjective, in this analysis the approach taken to define landscapes warranting protection is based upon a set of objective criteria tied to the health of the hydrological system. For the purposes of this study the hydrologic system consists of the network of surface water bodies, the rivers and their floodplains, ponds, estuaries and wetlands, that act as a major unifying element of the landscape of Southern New Castle County. In addition, the hydrologic system is reflective of the underlying geologic structure of the area, and when healthy, crucial to the maintenance of life. It is, in many ways, a natural system that ties together the other natural and man-made elements that shape the landscape and establish the character of Southern New Castle County.

1. Role and Objectives of the Scenic Resources Analysis
The analysis of landscapes for their visual quality has been, until recently, ignored in the land use planning and regulatory processes because their aesthetic qualities have been considered difficult to assess in an objective manner. However, as areas become developed and their character changes, at least in part, through the loss of the scenic landscapes, a general and gradual degradation of quality of life occurs. The loss of scenic landscapes is frequently cited as reason for opposition to any number of proposed developments and it has become apparent that there is a mounting public perception of the value of scenic resources. The purpose of this scenic resources analysis is to demonstrate that scenic beauty is a tangible, and not entirely subjective, community resource, that it has value, and that its loss can have significant and lasting negative effects on a community.

The inventory and analysis contained herein rely upon an objective methodology that is designed to provide scenic resources the same value in the land use planning and
regulatory processes as other easily-degraded environmental resources such as steep slopes, wetlands, woodlands, water bodies and plant and animal habitat. The scenic resources analysis is synthesized on the basis of natural, cultural and scenic significance of this study so that the protection of significant scenic resources in the Southern New Castle County area may be pursued in relation to other valuable historic and natural resources.

A major overall objective of this analysis and inventory is to convey, through maps, appendices, and written description, a sense of the scenic quality of the Southern New Castle County study area. More specific objectives include the following.

a. The identification and definition of visually significant landscapes. These include scenic vistas, as defined as broad expansive views and scenic boundaries, defined as the scope or boundaries of visually significant areas.
b. The identification of visually significant landscape accents, for example bridges, lighthouses, special trees, etc.
c. The identification and definition of visually significant landscapes and landscape accents in need of management in order to develop their full visual potential.
d. The identification and definition of visually degraded landscapes and landscape intrusions that detract from the scenic quality of the Southern New Castle County area.
e. The identification and definition of historic resources within the scenic viewshed.
f. The identification and definition of scenic roads, i.e. those roads having a high degree of natural beauty and provide views or vistas of specific historic, cultural and/or natural resources.

The scenic resources analysis and inventory is intended for use in the land use planning and regulatory processes for both the public and private sectors. It should be very useful in the County’s growth management program, for both long range comprehensive planning and in the site development review process. It should also be useful for private landowners and others interested in the protection and preservation of the full array of the resources of the Southern New Castle County area. A number of landowners have obviously demonstrated an awareness of and respect for the scenic resources in Southern New Castle County. This awareness is evidenced by the relatively high number of visually significant areas remaining today even as development has proceeded in recent years at a very rapid pace. This scenic resource inventory and analysis should provide assistance to those landowners in further defining and managing the visually significant areas contained on their own land.
1.3.2 Visual Analysis Methodology

1. Methodology

The purpose of the visual analysis is to identify and define landscapes that are visually significant in Southern New Castle County including scenic vistas and their boundaries, and visually significant landscape accents. Equally important to the goals of this analysis is to delineate visually degraded landscapes, referred to as intrusions, many of which could be returned to their scenic quality through the use of management techniques (see Appendix 1 for a full listing of visual accents, vista points, and visual intrusions).

The delineation and analysis of scenic landscapes used herein are similar to the environmental assessment procedures normally employed by the planning profession. Through these assessments, environmentally sensitive areas are established within which the impacts of disturbance, such as construction, earth moving or clearing, would have a deleterious effect on important natural processes related to hydrology and plant and animal habitat. Many such environmentally significant landscapes have been demonstrated to have public benefit and, as a result, have been protected through public regulation. The protection of wetlands, floodplains, aquifer recharge areas, and steep slopes are but a few examples of such regulation.

On another level, some landscapes are simply viewed as aesthetically pleasing, as “beautiful scenery”, and have no obvious environmental significance. Frequently, visually stimulating landscapes are what attract homebuyers to a given area and keep them there. To the traveler scenic landscapes are perceived to have public value. One outgrowth of this experience has been the number of scenic highways programs adopted at the state and local level to preserve and protect this scenic resource. To the extent that beautiful scenery represents value, this analysis attempts to quantify beauty and, at the same time, assess its value.

It can be argued, if landowners refrained from building structures so as not to spoil particularly beautiful views along public roads, they have lost beneficial use, or at least some incremental value, of their land. Similarly it can be argued that such a landowner ought to be able to gain a reduction in taxes for the value therein lost. It can also be argued that local governmental regulation, such as zoning and subdivision controls can be developed to protect beautiful landscapes in much the same manner that they now protect environmental resources, for example floodplains. Regulations to protect visual resources can be designed to be restrictive, offer incentives or provide flexible development options. The fundamental challenge in the protection of visual resources is to establish a concept and a methodology that supports the necessary land use regulation required.

The fundamental premise of this scenic analysis is that a beautiful landscape is more than simply an aesthetically pleasing picture in terms of form, shapes and colors, but that the landscape’s appearance is related, implicitly or explicitly, to natural processes critical to the maintenance of life. That is to say that human beings respond in a
positive way to and benefit from clean watercourses, healthy woodlands, rich soils supporting plant and animal life and the built environment reminiscent of the past because these are among the many things, most people would agree, that sustain life.

The shapes, forms, patterns and colors of a landscape, beautiful in their own right to many, also serve to convey the landscape’s underlying meaning and, as with other art forms, are the foundation of our understanding and consequently our perception of beauty. The landscape analysis herein identifies ten categories of natural processes, as expressed in individual landscapes, that most people would recognize as life sustaining:

a. Hydrology – stream or watercourse, pond  
b. Hydrology – wetland  
c. Hydrology / Topography – enclosing landform (slope, hillside)  
d. Vegetation – mass  
e. Vegetation – thicket or edge  
f. Vegetation – specimen plant or dominant plant group  
g. Vegetation – grassland meadow  
h. Geology – outcrop, ledge, mass, depression  
i. Wildlife habitat  
j. Cultural resource – building, building group, bridge, lighthouse, etc.

A landscape is considered visually significant when it is an expression of one or more of these important life-sustaining elements. A scenic landscape may include, for example, an expansive wetland, an old growth forest, a farm complex or a combination of several of the elements listed above.

One way of assessing scenic beauty or significance is to assemble a randomly selected group of independent observers to rate the scenic quality of a landscape within a general range, for example, from low to high quality based on a purely “emotional response”. Given the large area and great number of landscapes to assess, such an assessment technique was not practical in Southern New Castle County. Therefore, the technique used in this analysis was to assess, quantifiably, the extent to which the above criteria are or are not being met. In the determination of scenic resources, the study team’s assessment was the major analytical tool.

2. Landscape Structure and Analysis

The analysis of the visual landscapes presented in this study relies on the distribution of the overall landscape into its major structural elements. Rather than an assessment of the significance of landscape “scenes”, the landscape elements, floodplains, lakes, streams, wetlands, farm fields and building complexes, are evaluated for their individual scenic quality. This approach allows a connection to be made between the scenic quality of each structural element and, implicitly, the underlying environmental processes that have shaped it. To the extent that otherwise subjective qualities can be linked to real events and natural processes, scenic quality, or beauty, can then be perceived as the natural result of real forces.
The Southern New Castle County Scenic River and Highway Study

The landscape structural system employs the naturally occurring watersheds in Southern New Castle County as the basis for analysis. This methodology is commonly used in planning, managing and regulating the use of land. Using the watersheds as the analytical basis, the landscape is viewed as a system of basins and channels, each gathering overland water flows and directing them to the major watercourses of each shed.

An analysis of stream water components, chemical composition, dissolved substances and transported solids, can describe very precisely the nature of development upstream. A watercourse can serve, therefore, as a reasonably accurate barometer of the nature of the activities taking place in the watershed, their impacts and the degree of ecological health and environmental stability of the system. If the hydrologic system, the watercourses, streams, ponds and wetlands, are healthy, very likely the entire watershed, its fields, forests and settlements are also healthy and capable of sustaining life. In other words, the watershed can provide the basics of air, soil, water, habitat, scenery and nutrient recycling processes.

The concept of scenic beauty suggested in this study argues, therefore, that if a landscape’s hydrologic system is healthy, then the landscape is of high scenic quality. Defined in this way, beauty is a tangible and objective record of the health of environmental systems and life sustaining processes.

Watershed analysis methodologies frequently separate the landscape into structural units related to land shaping hydrologic and drainage processes. These structural units or landscape categories are described in item 3, below.

This visual / scenic resource analysis concentrates on the interaction of humans and the landscape. The scenic part of certain landscapes may be the result of natural events. Other landscapes may be scenic because of the visible linkage with human activity, for example farms, bridges, homes or other cultural processes more strongly concentrated in settlements and towns. In Southern New Castle County certain towns and small settlements stand out in visual quality and their scenic significance lies in the fact that they provide a tangible record of the healthy interaction of humans with the natural environment.

3. Landscape Categories

In this analysis, watershed landscapes are categorized according to the following structural components that form the basis for the Scenic Resources Map, Figure 6.

a. Watercourse
   - Standing or flowing stream, creek, river, channel or ditch

b. Lakes and Ponds
   - Water impoundment
c. Wetland
   • Visible standing water
   • Water table close to surface, rising to less than approximately 1 foot below surface
   • Swampy, marshy, wet (hydric) soil
   • Signature vegetation, willow, sycamore, alder
   • Flat, level landform adjacent to watercourse

d. Alluvial Floodplain
   • Water table close to surface but not generally visible, rising to approximately 5 feet to 1 foot below surface
   • Silty, sandy soil, lacking humus (stream deposited sediments)
   • Signature vegetation, red maple, silver maple, willow, sycamore, walnut, black gum
   • Flat, level landform

e. Terrace
   • Water table hidden, rising to approximately 5 to 10 feet below surface (low terrace) or at great depths below surface (high terrace)
   • Soil usually well defined, humus content obvious
   • Signature vegetation, varied upland forest and successional deciduous vegetation of many types
   • Hilly or level landform landscape used for agriculture, settlement, development

f. Ridge
   • Water table found at great depths below surface

g. Towns and Settlements
1.3.3 Southern New Castle County Landscape Overview

All of Southern New Castle County lies within the Atlantic Coastal Plain physiographic province. The Coastal Plain is characterized by relatively flat terrain and land elevations that are generally less than 100 feet above sea level. Within the Coastal Plain are two distinct physiographic units, the Coastal Lowlands and the Interior Lowlands. The Coastal Lowlands, generally that area to the east of Delaware Route 1, contain an extensive wetlands system, and the land elevations of the unit do not exceed 50 feet above sea level. The Interior Lowlands make up the remainder of Southern New Castle County, to the west of Delaware Route 1, and are characterized by level terrain, wide meandering stream valleys and elevations of between 50 and 100 feet above sea level. It is in this area that the majority of the County’s valuable agricultural lands are located, principally that area known as the “Levels”. The Levels are located generally west of Delaware Route 896 between Townsend and the Chesapeake and Delaware Canal. Most of the land in the Coastal Plain contains slopes of less than 3%, a small amount in the range of 3 to 8% and few areas with slopes between 8 and 15% and 15 to 25%. In no instance do slopes in excess of 25% occur in the Coastal Plain.

Geologically, the Coastal Plain is comprised of sedimentary rocks that were deposited by the decomposition of the Piedmont region, the physiographic province to the north, as well as through marine deposits and glacial melting. These rocks are loose, or unconsolidated, sediments that were deposited in layers of varying portions of sand, gravel, silt and clay. Bedrock below the Coastal Plain is very deep, sloping southeastwardly from the Piedmont Province toward the Atlantic Ocean.

The soils in the Coastal Plain and in Southern New Castle County in particular are the result of the weathering of the parent geologic material, transported and deposited material, and the decomposition of plant and animal life. These combined forces have produced over time a pattern of soil associations, groups of soil types with similar characteristics, which have influenced the settlement patterns of Southern New Castle County.

Soil types can be grouped together in associations according to such characteristics as slope, texture, depth, stoniness and drainage capability. Of the five associations (See Natural Resources Inventory, 1.4) comprising Southern New Castle County, The Matapeke-Sassafras Association is significant in terms of its outstanding capability to support agricultural production. This soil association makes up most of the land to the west of Delaware Route 1, between the Chesapeake and Delaware Canal and Townsend. The remaining soil associations in Southern New Castle County are the Fallsington-Sassafras-Woodstown, Sassafras-Fallsington, Keyport-Elkton and Tidal Marsh associations. The Fallsington-Sassafras-Woodstown and Sassafras-Fallsington associations vary from poorly to well drained and thus can present problems for agricultural production as well as human habitation. These associations are located generally to the west of Delaware Route 1 and to the south of Townsend. Located to the east of U.S Route 1 are the Keyport-Elkton and Tidal Marsh associations, the former variable in its drainage characteristics and the latter being the marshy areas along the Delaware River and the tidal streams emptying into it. These associations too are
The Southern New Castle County Scenic River and Highway Study

problematic for agriculture and extensive construction, although small areas of such can be found.

The hydrologic features of Southern New Castle County consist of its major creeks and rivers, floodplains, wetlands and aquifer recharge areas. These features together with the underlying geologic conditions and the resulting landforms constitute the natural morphology of Southern New Castle County and have helped shaped its historic settlement patterns. This combination of natural physical features, geologic structure, landforms and hydrologic conditions, and the settlement patterns they helped to create, are the essential elements that have shaped, historically, the visual character of Southern New Castle County.

The major rivers and creeks that drain Southern New Castle County are the Delaware River, the Appoquinimink and Smyrna Rivers, Blackbird and Drawyers Creeks and the Chesapeake and Delaware Canal that generally follows what was the St. George’s Creek. Appoquinimink and Smyrna Rivers and Blackbird and Drawyers Creeks flow in a west to east direction to the Delaware River. Due to the topography of the Coastal Plain, these rivers are tidal for most of their length and are associated with vast areas of floodplains and tidal wetlands. These wetlands occur, for the most part, east of Delaware Route 1.

In addition to the canal and the rivers and creeks, the surface waters in Southern New Castle County include three major man-made impoundments, Silver Lake, Noxontown Pond and Shallcross Lake. Silver Lake, just south of Middletown, and Noxontown Pond, on the lands of St. Andrews Academy, are the result of the damming of two branches of the Appoquinimink Creek. Shallcross Lake, to the northeast of Middletown, is the result of the damming of Drawyers Creek.

Another important hydrologic feature of Southern New Castle County arises from the fact that it lies in two different drainage regions. While most of the land area is in the Delaware Bay Drainage Region, a smaller area generally to the west of Delaware Route 896 and extending the entire length of Southern New Castle County lies in the Chesapeake Bay Drainage Region.

The combination of the physiographic, subsurface and surface geologic structures and resulting landform and hydrologic conditions of Southern New Castle County have shaped its natural landscape as well as influenced its pattern of human settlement. Together the natural landscape and human interaction with it, in the form of settlement patterns, provide the character of Southern New Castle County that can be described as being made up of essentially three distinct elements or areas. The first is the northwest part of the study area, characterized by broad vistas of agricultural lands punctuated by farm building groups and places of human settlement. This area is partially defined or separated by slender masses of trees generally along streams and other water bodies. The second area lies to the east of Delaware Route 1 and is characterized by vast areas of tidal marsh that are interspersed with farm fields and groups of farm structures. Finally, the third is the area to the southwest characterized by large masses of woodland with some smaller farms located on land suitable for agricultural uses.
1.3.4 Settlement and Development Patterns

Up until the past 15-20 years, settlement patterns in Southern New Castle County remained relatively stable, accommodating a modicum of growth and development. Growth generally occurred in the Middletown area, largely through annexation by the City of Middletown, and along Delaware Route 13 in a few large lot subdivisions. Southern New Castle County remained, since the 18th and 19th centuries, essentially an agricultural area. By the late 1980’s and the early 1990’s this was changing dramatically. Vast amounts of land in the northwest part of Southern New Castle County were converted from agricultural uses to large lot single-family residential subdivisions. This process of conversion continues, particularly in light of the County’s plan to provide public sanitary sewer service to a large part of the northern third of Southern New Castle County.

A number of factors contributed to the conversion of farms and agricultural land to residential use. The construction of Delaware Route 1 as a 4-lane expressway, providing high-speed access to northern New Castle County, Dover and the Delaware Beaches, made the area south of the Chesapeake and Delaware Canal highly accessible to centers of employment in northern New Castle County and the Dover area. At the same time, areas economically suitable for development north of the Chesapeake and Delaware Canal had been, for the most part, depleted and land prices in Southern New Castle County remained relatively low (at least until recently). Large tracts of clear, flat land with few or no limitations for development (these lands having been extensively farmed) made the northwest portion of Southern New Castle County particularly attractive to developers. All of this was occurring at a time when the economy of Delaware, and the nation as a whole, was as strong as it had ever been and demand for housing was at an all time high. At the same time, agricultural commodity prices remained low, making it difficult for farming operations to be profitable. With but occasional slowdowns, it is anticipated that this trend will continue well into the 21st century.

The net result of this development activity has been a distinct change in the character of Southern New Castle County, at least in that area from Middletown to the Chesapeake and Delaware Canal and west of Delaware Route 1.

The eastern and southern parts of Southern New Castle County, generally to the east of Delaware Route 1 and south of Townsend, respectively, have remained relatively free of extensive residential and non-residential development due to the environmental constraints in these areas. The hydric nature of the soils and vast amounts of wooded lands in the area west and south of Townsend make development very difficult, particularly since on-lot sanitary waste disposal must be used. The area from Delaware Route 1 to the Delaware River is greatly constrained due to the presence of tidal wetlands. Except for some strip residential and non-residential development along U.S Route 13 and some scattered individual large lot residential development, these areas have for the most part retained much of their rural and natural character.
1.3.5 Description of the Study Area

The mapping and visual landscape features are discussed for the 3 separate sections of Southern New Castle County described above. Again, these sections are the Northwest Area, generally west of Delaware Route 1 and north of Townsend, the Southwest Area, west of Delaware Route 1 and south of Townsend, and the Eastern Area, between Delaware Route 1 and the Delaware River. Each of these areas has its own unique combination of environmental features and character. The following narrative descriptions correlate with Figure 6.

1. The Northwest Area

The visual significance of the Northwest Area lies in the presence of the great number of farm complexes and other agriculturally related uses that characterize the historical agrarian economy and rural settlement patterns of Southern New Castle County. Highlighting this rural scene are the cities, towns and settlements that developed historically to serve the agrarian economy of the area: Middletown, Townsend, Odessa and Mt. Pleasant. Much of the area consists of groups of farm structures (barns, silos, implement sheds and residences) and other agribusiness-related structures in a setting of broad, flat cultivated fields. Delineated by hedgerows, fence lines, tree lines along the streams, and a number of narrow two-lane roads that transect the area in a north-south and east-west direction, the farm complexes provide most of the scenic accents and vistas.

The major public roads through the Northwest Area include Delaware Route 896 / U.S. Route 301 / Delaware Route 71, Delaware Route 15 (Choptank Road / Levels Road / Dogtown Road), Delaware Route 10 / 896 (Churchtown Road / Boyds Corner Road), Delaware Route 299, Delaware Route 1 along the eastern boundary of the area and Caldwell Corner Road along the southern boundary. U.S. Route 301, a major north-south highway, enters the area from the north via the Summit Bridge crossing of the Chesapeake and Delaware Canal and essentially divides the Northwest Area into 2 sections, one to the west of U.S Route 301 and one to the east. These sections roughly correspond to the hydrographic units representing those areas draining to the Chesapeake Bay and the Delaware River respectively.

The western section, drained by Back Creek, Great Bohemia Creek, the Sassafras River and their tributaries contains the “Levels”, a vast area of some of the most productive farmland on the eastern seaboard. As its name implies, this interior lowland area is practically devoid of topographic relief. This condition and the highly valued agricultural soils of the area have made it eminently suited to farming operations.

The eastern section from U.S. Route 301 to the Delaware Route 1 / Delaware Route 13 corridor drains both to the Chesapeake and Delaware Canal from the northern part and to the Delaware River from the southern part. The streams draining this section are Crystal, Joy and Scott Runs, emptying into the Chesapeake and Delaware Canal, and Drawyer Creek, the Appoquinimink River and their tributaries draining into the
Delaware River. This section, like the western section, contains a significant portion of Southern New Castle County’s agribusiness community and is also highlighted by the presence of Shallcross, Noxontown and Silver Lakes and Wiggins Mill Pond, as well as part of the tidal wetlands of Drawyer Creek and the Appoquinimink River. These two stream corridors form, within the Northwest Area, a significant portion of the Appoquinimink River Marshes Critical Natural Area.

Upon entering, along U.S. Route 301, the Northwest Area of Southern New Castle County from the north, via the Summit Bridge crossing of the Chesapeake and Delaware Canal, one immediately senses the topographic and hydrologic conditions of Southern New Castle County as well as its eminently rural character. From the bridge, broad vistas of the Chesapeake and Delaware Canal and its environs are similarly enjoyed. A route that is indicative of the kinds of scenic viewsheds in the Northwest Area is DE Route 15 that traverses, generally, the western part of this area and includes the important agricultural lands known as the “Levels”. It also generally follows the divide between that part of Southern New Castle County that drains to the Chesapeake Bay and that which drains to the Delaware Bay. The route follows parts of such scenic roads as Bethel Church Road, Choptank Road, Bunker Hill Road, Levels Road and Dogtown Road that take one along a somewhat circuitous journey from the Summit Bridge to the town of Townsend.

After exiting the Summit Bridge and turning right onto Bethel Church Road, one is immediately presented with scenic vistas of the flat cultivated fields, surrounded and separated by tree masses delineating drainage ways, that are characteristic of the Northwest Area’s landscape. Highlighting these scenes are farm-building groups, houses, barns, implement sheds and silos, many of which are historic resources that date to the 19th and early 20th centuries.

At the junction of DE Routes 15 and 286, landscape vistas similar to those along Bethel Church Road can be viewed to the east, and continuing on Delaware Route 15, now Choptank Road, broad flat farm fields dominate the landscape along the easterly side of the road. Although there are a number of relatively recently constructed homes along this stretch of Choptank Road as well as a small residential development, the rural landscape is still predominant.

More suburban residential development lines both sides of Choptank Road, however as the road takes a sudden turn to the left it crosses a very narrow bridge over Back Creek, the first evidence, along Delaware Route 15, of the hydrologic landscape-defining elements of Southern New Castle County. Views of watercourses from bridges such as this one are significant scenic visual accents to the overall agricultural landscape of the Northwest Area. This stream and many more similar to it, lined with mature trees and natural undergrowth, offer a counterpoint to the characteristic
cultivated fields. Furthermore these streams and their associated floodplains provide a defining edge to the fields’ viewsheds.

Continuing south from Back Creek along Choptank Road, residential lots dot the landscape and on the westerly side of the road is the recently completed relatively large residential subdivision called Back Creek that offers a view distinctly different than the heretofore described landscape and views afforded along Choptank Road.

Continuing south on Delaware Route 15 at Churchtown Road, the new development of Fox Hunter Crossing appears at the southwest corner of the intersection. Across the road from Fox Hunter Crossing is more strip residential development, however just beyond these homes one is provided a very nice view of some older farm structures that are set in a vast and flat cultivated field. In the distance a wooded area along a tributary of Back Creek defines this farm complex and provides the edge to complete the view. Just past the development of Fox Hunter Crossing on the easterly side of Delaware Route 15 at the intersection of School House Road, lies a harvested soybean field set against a backdrop of mature woodland.

To the west a continuation of the sprawl type of large lot development together with a water storage tank and pump station act as an intrusion on the overall landscape of the area. Just past the water tank to the west is another new subdivision called Westside Hunt. Continuing south on Delaware Route 15 at the intersection with Armstrong Corner Road one can see to the east another fine view of an open flat farm field with a backdrop of mature woodland defining the floodplain of Dove Nest Branch, a tributary of Drawyer Creek. Beyond this view rising above the tree line, however, is a very high water tank, another intrusion on an otherwise bucolic vista. Once past Armstrong Corner Road and approaching Bohemia Mill Road, one is presented, to the west, an exquisite view of more open farm fields set against a backdrop of mature woodlands. This wooded area defines the flood plain and flood fringe of Great Bohemia Creek. Further south, a very large forested area delineates a horse farm highlighted by a rustic wooden fence line parallel, for some distance, with the road. A Barn and outbuildings can be seen in the distance behind groups of trees set in a vast pasture area. The pasture becomes slightly rolling as one travels south. In the distance lies a very large mature hardwood forest providing the traveler along Delaware Route 15 a broad vista of pastureland delineated by a mature forest tree line. At this point to the east is the farmstead known as Fairview, partially obscured by old growth vegetation. This three-story residential structure, built about 1845 by Spencer Holton who farmed the surrounding 165 acres, adds an historic element to the overall landscape and rural character of the area. To the west, the horse farm fence row continues and is ultimately terminated at a stand of mature white pine trees, beyond which lies a vast cultivated field of harvested corn and, as with similar fields in the area, delineated by masses of mature woodlands. In this case, the woodlands define the lands that cannot be cultivated along an unnamed tributary of Great Bohemia Creek. Looking to the east and south approaching Bunker Hill Road, more flat farm fields dominate the landscape. In this instance, the fields are highlighted by narrow hedgerows that delicately carve the flat terrain into separate, smaller, cultivated areas.
At this point, to the west, is Rosedale, a farmstead built in the Mid 19th Century by Thomas Murphy and another reminder of the early agrarian settlement patterns of Southern New Castle County. In addition to his agricultural pursuits at this location, Murphy also owned a cotton and woolen factory on the Bohemia Creek in Maryland.

Delaware Route 15 exits Choptank Road and continues to the east along Bunker Hill Road in a direction toward the City of Middletown. At this point, on both sides of Bunker Hill Road, vistas of gently rolling farm fields can be seen, however in the distance, the large water tower in Middletown and a townhouse development to the northeast tend to dominate the landscape and both elements serve to detract from the overall landscape. Approaching the City of Middletown, evidence of commercial development can be seen along U.S. Route 301, however to the southwest a small farm complex punctuates a broad flat area of cultivated fields. To the northeast stands The Maples, the original farm residence of George Derrickson, built in the 1850’s and named for the many maple trees surrounding the home. Both of these landscape elements provide the last vestiges of the agricultural character and history of the Northwest Area before entering Middletown. Here Delaware Route 15 follows, to the southwest, U.S. Route 301 a short distance to Levels Road at which point Delaware Route 15 continues due south along Levels Road.

The short distance along U.S. Route 301 between Bunker Hill Road and Levels Road, once outside of the City of Middletown, provides a landscape and vistas characteristic of the Northwest Area. To the southwest, a prominent vista of the vast farm fields surrounding Cochran Grange is terminated only by the mature woodlands that visually define the floodplain of Deep Creek that feeds Silver Lake to the south of Middletown. The entire landscape is dominated by Cochran Grange, a Greek Revival style residence of Delaware Governor John P. Cochran. Constructed in the early 19th century, the farm complex consists of the brick residence, surrounded by the remains of an ornate cast-iron fence, brick bank barn, threshing barn, stable, corn crib, granary and storage building. The structures and their arrangement are characteristic of many Southern New Castle County farm complexes in their domination of the landscape. Here that domination is expressed through the massiveness and solidity of the architecture.

At the intersection of U.S Route 301 and Levels Road the view to the north is another classic view of an historic house and farm complex set in the Northwest Area’s characteristic landscape of flat cultivated fields surrounded by mature woodlands. The vast wooded area serving as the backdrop to this scene defines the floodplain and flood fringe area of Sandy Branch and its tributaries, all of which feed the Great Bohemia Creek. Continuing south on Delaware Route 15, along Levels Road, one can see immediately to the west Summerton, an Italianate style residence built around 1850. The barn, granary and cart shed still remain as part of this farm complex. Just to the south of Summerton there is a fine view to the east of a series of farm fields that encapsulate another historic structure, Hedgerow, a Greek Revival residence located near the intersection of Levels Road and U.S Route 301. Serving to define
this expansive view are the massive and undulating woodlands that lie along Deep Creek, the headwaters of the Appoquinimink River.

Continuing south on Levels Road another historic farm complex comes into view as the road approaches Deep Creek. After crossing Deep Creek, Levels Road takes a rather sharp curve to the west at which point to the east can be seen a landscape that includes the characteristic flat cultivated fields and mid-nineteenth century farm complexes. Here the fields are separated by narrow hedgerows as well as tree masses that define the Deep Branch Creek (not to be confused with Deep Creek to the north) floodplain. While the scenic vistas offered here are some of the most expressive of the agricultural history and landscape of Southern New Castle County and the Northwest Area in particular, they unfortunately include a line of rather large electric transmission towers that generally parallel the road. Because of the relatively flat terrain and viewsheds that are quite expansive, these utility structures serve as an intrusion to an otherwise splendid landscape.

At the intersection of Levels Road and Grears Corner Road a panoramic vista of several farms opens up to the traveler. One can see, literally for miles, to the north, south and west an immense flat expanse of cultivated fields dotted with the characteristic farm residences, barns, silos and equipment storage sheds of the individual farms. Continuing south on Levels Road, differing perspectives of the same vistas can be seen, terminating only at the mature woodlands that follow the course of the South Branch of the Appoquinimink River. Delaware Route 15 takes a left hand turn at Dogtown Road where the same vistas can be viewed from yet again another perspective, this looking back to the northwest and Levels Road. Unfortunately these vistas are marred somewhat by an electric transformer station on the westerly side of Dogtown Road and the transmission towers carrying 500 KV electric lines that run in a north south direction through Southern New Castle County.

Dogtown Road crosses, at a sweeping curve in the road to the left and then back to the right, the South Branch of the Appoquinimink. Having passed the wooded area along the River, a distinctive view of a gently rolling farm field gracefully enclosed by the undulating tree masses that surround the headwaters of the Sassafras River can be seen at the intersection of Dogtown and Caldwell Corner Road. Caldwell Corner Road is generally the southern boundary of the Northwest Area - proceeding east takes one to the town of Townsend. Caldwell Corner Road curves gently to the north and then back again to the south; along the road to the north is another panoramic view of cultivated fields carved out of the mature woodlands providing a defining backdrop to this landscape. These woodlands follow the gentle undulations of the South Branch of the Appoquinimink River, feeding Wiggins Mill Pond and Noxontown Lake to the north before entering the Appoquinimink River just south and east of Middletown. Approaching Grears Corner Road, differing perspectives of these same vistas can be viewed to the north along Caldwell Corner Road and, in the distance, those viewsheds to the north and east of Grears Corner Road. Once past Grears Corner Road, one views to the north a rather large, for this part of Southern New Castle County, wooded area, just beyond which opens a grand view of a farm
complex surrounded, characteristically, by flat cultivated fields. Here the fields are
gracefully defined by the mature woodlands that obscure and line the southern edge
of Wiggins Mill Pond. At this point on the southerly side of Caldwell Corner Road
are two distinctive views of a rather compact farm field, again afforded a backdrop of
mature woodlands, in this case those that define the Barlow Branch, part of the
headwaters of the Blackbird Creek. To complete and complement the landscape along
Caldwell Corner Road one can see in the distance to the east the town of Townsend.

Caldwell Corner Road becomes Main Street in Townsend, an early railroad and
manufacturing town in Delaware. Located in an area of the most fertile soils on the
Delmarva Peninsula and at the convergence of two railroad lines, the Delaware
Railroad and the Queen Anne and Kent Railroad, Townsend was in the mid 19th
century a major shipping point for grains, lumber and peaches. A number of historic
structures, of the 19th and early 20th centuries, still remain along Main Street and the
major north south artery, Commerce Street. These include the Samuel Townsend
House, the Shirt Factory, the Evaporation House (where peaches, a major crop in the
1800’s, were dried), the Maloney Lumber Yard, the Townsend School, Winfield
Cottage, Townsend Trust Company Bank and the L.W. Lattomas Hotel among others.
Townsend remains a significant part of the landscape of the Northwest Area and
Southern New Castle County and a reminder of the areas agricultural history.

2. The Southwest Area
The Southwest area is that area generally south of Caldwell Corner Road / Pine Tree
Road and west of Delaware Route 1. While it represents a continuation of the
agricultural economy and rural settlement patterns of the Northwest Area, the
Southwest area is somewhat different in its visual characteristics. Large old-growth
mixed hardwood and pine forests still abound in this area due to the hydric nature of
the soils here and their limitations for the economical support of agricultural
production. However there still remain a large number of farm complexes, many of
them of historic significance, since the impacts of development have not penetrated
this far into Southern New Castle County. Much of the wooded areas are publicly
owned in several separate large masses collectively known as the Blackbird State
Forest. These forests are an important part of the visual significance of the Southwest
Area.

Like the Northwest Area, The Southwest area lies in two hydrographic regions. That
part of the Southwest area to the west of Delaware Route 15 drains to the Chesapeake
Bay while the remainder drains to the Delaware River. Streams draining to the
Chesapeake Bay include the headwaters of the Sassafras River and the headwaters of
the Chester River, consisting of the Cypress Branch and the Dogwood Branch. The
streams flowing to the Delaware River are the Blackbird Creek and its tributaries,
Providence Creek, including the Paw Paw Branch, and Duck Creek, including the
Massey and Green Spring Branches.

Major roads through the area include various segments of Delaware Route 15
(Blackbird Station Road, Dexter Corner Road, Vandyke Greenspring Road and
Clayton Greenspring Road), Sawmill Road, Blackbird Forest Road, Clayton Delaney Road and Caldwell Corner Road, which forms the northern border of the Southwest Area.

Visual highlights in the Southwest Area include Blackbird and Duck Creek Ponds.

The Southwest Area is that relatively small area of Southern New Castle County that lies south of Caldwell Corner Road and west of Delaware Route 1. Unlike the Northwest and Eastern Areas, its landscape is characterized more by mature upland forests, however it shares with the Northwest Area similar hydrologic conditions and with the Eastern Area the presence of the typically smaller farmsteads and cultivated fields. This condition no doubt resulted from the hydrologic and soil conditions of the area that, as compared to the Levels, generally have a higher water table and are, therefore, less suited to agriculture or require the construction of more drainage facilities. In many instances the soils of the area may have a seasonally high water table at or above the surface, supporting water tolerant plant species, but are not marshes that provide the plant and wildlife habitat of that of the Eastern Area. A significant landscape element of the Southwest Area is the presence of the Blackbird State Forest that is made up of 5 separate large tracts of mature woodlands scattered throughout the area.

The Southwest Area is generally divided in a north and south direction by two major drainage basins, the Chesapeake Bay and the Delaware River. This is similar to the hydrology of the Northwest Area. A north to south and back travel route that would follow this divide and provide a sense of the settlement patterns and the landscape character of the area and the typical kinds of views associated with them would start at the intersection of Caldwell Corner Road and Blackbird Station Road. Traveling south from this intersection the route would traverse Blackbird Station Road to south on Ebenezer Church Road, southeast on Vandyke Greenspring Road, west on Harvey Straughn Road and South on Black Stallion Road to east on Clayton Delaney Road and north on Blackbird Forest Road to the settlement of Blackbird.

Traveling south along Blackbird Station Road, to the west lies the first of many of the smaller farms of the area. Characteristic of the farms in the Southwest Area is the presence of heavily wooded areas that adjoin and separate them from the streams, in this case the headwaters of the Sassafras River. The farm fields in the Southwest area, like those of the Eastern Area, are irregularly shaped to conform to the hydrologic and soils conditions. The riparian buffers along these streams are usually heavily wooded areas and give these fields and farms a unique character and small, but pleasant, settings and viewsheds.

Blackbird Station Road continues south to a point of intersection with Ebenezer Church Road. Ebenezer Church Road is a narrow two-lane road that passes through, for most of its length, a mature upland wooded area whose canopy overarches the roadway providing a sense of enclosure and intimacy. A short distance from its intersection with Blackbird Station Road, Ebenezer Church Road crosses the Queen
Anne and Kent Railroad that connects Centreville, Maryland, on the Eastern Shore, with Townsend and other Delaware towns. This single-track line, cut through a very narrow slice of the woodlands, offers an interesting view along the track to the east and west and is a remaining link to the past history of the rail transportation and commerce that once served the agrarian economy of Southern New Castle County.

Just past the rail crossing and traversing the woodlands on both sides, Ebenezer Church Road takes a gentle curve to the west where lies, quite close to the road, the single-room Ebenezer Church, and its small cemetery. Surrounded by the woodland buffers of the headwaters of the Sassafras River and backing to the Queen Anne and Kent Railroad, this cozy setting offers a pleasant roadside view and historical perspective of the cultural and settlement patterns of the Southwest Area.

South of the church, carved into the woods, another small field appears to the west, a view that reinforces an understanding of the combination of the environmental factors, natural and cultural, that shaped the landscape of the Southwest Area. Ebenezer Church Road dead ends at Vandyke Greenspring Road where straight ahead lies a massive woodlands area surrounding the Cypress Branch, part of the headwaters of the Chester River that flows through Maryland to the Chesapeake Bay. Contained within this large forested area is one of the smaller tracts that make up the Blackbird State Forest.

Vandyke Greenspring Road generally follows the ridgeline between the Chesapeake Bay drainage basin and the Delaware River drainage basin. To the south of the road lies a continuation of the aforementioned woodlands surrounding the Cypress Branch while to the north lies a similar wooded area surrounding a number of tributaries of the Blackbird Creek. With little settlement in the area, these woodlands provide long stretches of scenic beauty along Vandyke Greenspring Road between Ebenezer Church Road and Harvey Straughn Road and in fact pass along the northern edge of another of the smaller tracts of the Blackbird State Forest.

Heading west on Harvey Straughn Road, the Cypress Branch woodlands provide a length of scenic highway. The trees along and very close to the road provide an overarching canopy similar to that along Ebenezer Church Road and are characteristic of the scenic roads seen in the Southwest Area. At the intersection of Black Stallion Road, the view of another small farm field highlights the scenic quality of Harvey Straughn Road. This field, seen to the southwest of the intersection and articulated by the mature wooded buffer of the Black Stallion Ditch, is another example of the intimate but picturesque views afforded by the environmental features of this Southwest Area.

Black Stallion Road connects, in a north-south direction, Harvey Straughn and Clayton Delaney Roads. Just south of its intersection with Oak Hill School Road, lies another of the characteristically small farm fields set among a vast hardwood forest that frames it. Most of this woodland is one of the larger tracts of the Blackbird State Forest. Past the field, and some small residential developments, Black Stallion Road
becomes quite scenic, lined on both sides by mature woodland and under-story. To the west is the wooded buffer of a tributary, winding through the Blackbird State Forest, of the Cypress Branch. To the east are the woodlands surrounding the Paw Paw Branch. The Paw Paw Branch is part of the headwaters of Duck Creek and Smyrna Creek, both of which form part of the southern boundary of New Castle County. This scenic stretch of highway terminates at Clayton Delaney Road.

Having traveled east on Clayton Delaney Road, close to and roughly parallel with the New Castle County and Kent County line, at its intersection with Blackbird Forest Road, is a very scenic view of a small farm field. Like most of the scenic farm views in the Southwest Area, this one is similarly surrounded by mature woodlands. Here is the riparian buffer of Providence Creek that, together with the Paw Paw Branch and Duck Creek, form the headwaters of the Smyrna River.

The first half mile of Blackbird Forest Road, here traversing a heavily wooded area to the south of the Paw Paw Branch is quite scenic up to and including the crossing. Further to the north at the intersection of Oak Hill School Road is still another small picturesque farm field to the east surrounded by the wooded buffer of a tributary of the Paw Paw Branch. The viewshed here however is somewhat unique among most in the Southwest Area. A grander vista across this field to another much larger farm to the north of Vandyke Greenspring Road is somewhat uncharacteristic of the more intimate views in the area. To the north of and defining this viewshed is a major tract of the Blackbird State Forest. Blackbird Forest Road continues north and passes through this part of the State Forest, where the road becomes unusually scenic for quite a long distance. Blackbird Creek flows northward through the forest, very close and parallel to the road.

North of the forest is an excellent view, to the east, of another of the small farm fields characteristic of the area, this one surrounded by the forested buffer of Blackbird Creek. At the northern edge of the field can be seen, in the background, Blackbird Pond. This combination of human settlement, natural vegetation and the hydrologic conditions of the area provide a particularly exemplary view of the landscape that characterizes the Southwest Area. Here, Mill Road, very short but exceedingly scenic, as it passes close to the northeastern edge of Blackbird Pond, permits unequalled views of the pond and the surrounding forested area.

Blackbird Road continues a very short distance in a northeast direction, to the Village of Blackbird near the intersection of U.S. Route 13. This small Village, at one time a stagecoach stop, dates from the early to mid 1850’s and was settled to take advantage of the confluence of the Blackbird Creek and the Kings Highway (now U.S. Route 13). Both provided transportation routes and the Creek provided power for several sawmills and gristmills. What remains of Blackbird Village today is the Ferguson House built by the major landowner in the area as a store and residence, the Blackbird School, moved from its original location for the widening of Route 13 in the 1930’s and the Scott Methodist Church on Blackbird Station Road.

3. The Eastern Area
The most diverse of the 3 areas in Southern New Castle County, the Eastern Area’s visual significance lies in its combination of agricultural, historical and natural resources. The most prominent is the natural resource environment of the tidal wetlands which cover nearly a third of the Eastern Area and which, together with the Delaware River and the Chesapeake and Delaware Canal environments, provide a water-based visual context.

The Eastern Area includes that part of Southern New Castle County east of Delaware Route 1, the entire area lying in the hydrographic region of the Delaware River. Although a small portion of this area drains to the Chesapeake and Delaware Canal in the northwest, via Scott Run, the vast majority drains to the Delaware River. The streams that drain this area generally run west to east and include the St. Georges River, the Augustine Creek, Silver Run, the Upper and Lower Breaks, Drawyer and Appoquinimink Creeks, the Appoquinimink River, Hangmans Run, Blackbird Creek, Cedar Swamp, Duck Creek and the Smyrna River. In addition, there are several other lesser creeks, branches and ditches. This vast and complex hydrologic system and the numerous marshes, bays and estuaries associated with it are subject to tidal flooding and provide habitat to a broad array of plant, animal and fish species. Furthermore, they represent a large area of Southern New Castle County that is undisturbed and provide, therefore, unsurpassed visual experiences. Significant among these undisturbed lands, not only for their visual qualities but also for open space and habitat preservation, are the numerous and highly valued Critical Natural Areas located here. These natural preserves, identified by the State of Delaware for protection, cover nearly half of the Eastern Area and are almost entirely made up of coastal wetlands. They include the following.

- Thousand-Acre Marsh
- Augustine Creek Marshes
- Armstrong Heronry and Nature Preserve
- Silver Run Marshes
- Marshes of the Appoquinimink River
- Blackbird Creek
- Cedar Swamp

Major roads through the area include Delaware Route 9, Port Penn Road, Pole Bridge Road, Bay View, Union Church Road, Paddock Road and Eagles Nest Landing Road. Delaware Route 9, designated by the State of Delaware as a Scenic Highway, is a two-lane highway running in a north and south direction generally along the Delaware River. As such, numerous views of the Delaware as well as views of the vast wetlands associated with the many rivers that Route 9 crosses are prominent.
Whereas the environment of the Northwest Area is characterized by broad flat farm fields that are embellished by the woodlands that define its hydrologic system, those of the Eastern Area are, conversely, characterized more by its hydrology, embellished by smaller farms and cultivated fields.

A very clear sense of the character of the Eastern Area can be achieved by traveling along Delaware Route 9, designated a scenic route by the State of Delaware. A relatively narrow two-lane highway, Delaware Route 9 traverses Southern New Castle County north to south through the tidal wetlands of the Delaware River and the many rivers, streams and creeks that empty into it.

Delaware Route 9 enters Southern New Castle County via the Reedy Point Bridge over the Chesapeake and Delaware Canal. From the bridge one immediately senses the nature of the area through a panoramic view of a relatively large part of the Eastern Area. From this vantage point, the hydrologic conditions of the area can be easily understood, for one can see very clearly the broad expanse of wetlands and marshes that make up much of the area and the rivers and streams that undulate through them on their way to the Delaware River. Aside from their important roles as habitat for a myriad of wildlife species and drainage and flood control for almost two thirds of Southern New Castle County, these tidal marshes offer unsurpassed views and vistas and provide a glimpse of the environmental conditions that have shaped the historical settlement patterns of this part of Southern New Castle County.

From the bridge looking to the southwest the Thousand-Acre Marsh can be seen practically in its entirety. Looking to the east, a commanding view across the Delaware River to the shore of New Jersey can be seen and along the River’s western shore, between it and Delaware Route 9, the Augustine Wildlife Area, another vast expanse of wetlands. A more contemporary part of this total landscape is a rather startling view, across the Delaware River, of the Salem Nuclear Power Plant.

From this overall view of the nature and character of the landscape of the Eastern Area, the descent from the Reedy Point Bridge gradually brings one practically at eye’s level with the marshes where more intimate and close up views of these wetlands can be seen. It is as if one is transported back in time as the more contemporary elements of the landscape disappear from view and one is confronted only with a sense of the historical nature of area. Traveling south along Route 9, here called Delaware City Port Penn Road, one feels ensconced by the tall marsh grasses and phragmites along both sides of the road. However, suddenly, surprising vistas of the marshes open up as one crosses the low-lying bridge over the St. Georges Creek. This sense of actually traveling through the marsh grasses with sudden and often surprising, if fleeting, glimpses of a broader perspective of the wetlands landscape are characteristic of the views one sees traveling along Route 9. Along this stretch of Delaware Route 9 to the west lies the Thousand-Acre Marsh and to the east, between Route 9 and the Delaware River, lies a part of the much larger Augustine Wildlife Area.
The Thousand-Acre Marsh, through which the St. Georges Creek passes, is the largest fresh water marsh in Delaware, comprised of 1,160 acres of marshland of which about 70% is open water. Adding to the beauty of the pristine marshland itself, views of which are afforded along this section of Route 9, the marshes are resplendent with wildlife. The area is highly attractive to waterfowl and other bird species whose breeding and feeding habitat is freshwater marsh. Muskrat, the trapping of which were once a prime economic activity in this and other marshland areas of Southern New Castle County, and smaller numbers of otter and mink are still present. Carp, one of a number of fish species, and snapping turtles are abundant. The area is also important archeologically as evidence found at two sites indicate seasonal encampment during the Late Archaic and Woodland periods.

Continuing south on Delaware City Port Penn Road no evidence of human habitation is apparent until one nears Thorntown Road where a small, cultivated field appears, on a slight rise in the land, tucked in among the vast expanses of wetlands. This is also the site of the Ashton House, one of the earliest of coastal settlements in Southern New Castle County. South of Thorntown Road one begins to see more recent residential development to the west on what little higher ground exists in the area. This, however, only briefly interrupts the overall natural landscape. Two fine views of the open marsh waters and their surrounding wetlands exist at a small causeway where Delaware City Port Penn Road becomes Liberty Street entering the Village of Port Penn, the first significant settlement since entering the Eastern Area at Reedy Point Bridge.

Located at one of the few deep and relatively protected harbors on the Delaware River, Port Penn was designed by Dr. David Stewart in 1764 to rival the port of Philadelphia. Albeit on a much smaller scale, the Village served, for many years (late 18th Century to mid 19th Century), as an important port for local agricultural products. The drive through the Village along Route 9, here Market Street and Congress Street, provides a rich tapestry of views of many significant historical structures and sites dating to the late 18th Century. Most of the residences in the Village were built in the 19th Century, the homes of laborers, mechanics, craftsmen and farmers. After the advent of the railroads, the port declined in importance and the major economic activity in this marshland community became muskrat trapping and commercial fishing. The Village remains today an important part of the landscape and a reminder of the changing history of coastal settlement in Southern New Castle County.

Leaving Port Penn, Delaware Route 9 becomes Saint Augustine Road, a road that traverses the marshes very close to the Delaware River offering panoramic vistas across it, and Reedy Island as well, to the New Jersey Shore. At Augustine Beach, less than a mile south of Port Penn, is the Augustine Beach Hotel (now the Augustine Inn), another historic landmark in Southern New Castle County. The Hotel was built in 1814 to serve travelers to the area at the time called St. Augustine Piers, a beach resort similar to many others nestled in the marshes along the shores of the Delaware River. Such resort communities were very popular in the 1800’s. Further evidence of the beach resort nature of the Augustine Beach area is a group of small residences or
cottages to the south of the Hotel that probably date from a much later period and now serve as permanent habitation. By the early 1900’s the beaches in southern Delaware and Maryland were becoming significantly more popular as vacation areas, a fact that led to the decline of the much smaller beach resort communities, like Augustine Beach, that dotted the Delaware Shore to the north.

Because Augustine Beach is located directly on the Delaware River, the area offers splendid panoramic vistas up and down the River as well as the New Jersey Shore. A significant part of the landscape today however, evidence of more modern times, is the Salem Nuclear Power Plant just across the Delaware at Artificial Island.

Saint Augustine Road continues its route along the shore of the Delaware River and, just south of Augustine Beach, crosses the Augustine Creek where it empties into the Delaware. At this crossing a spectacular vista of the Creek and its associated wetlands is afforded the viewer. This vista, like similar stream crossings along Delaware Route 9, is particularly illustrative of the maritime nature of the landscape of the Eastern Area and exemplary of the hydrology of the coastal lowlands of Delaware. The Augustine Creek marshes are known to be highly productive and are an essential buffer and feeding grounds for a Great Blue Heron nesting colony that is located in an upland woods contiguous to the marsh. This nesting colony is one of the rare few in the United States containing more than 100 nests. Archeological evidence exists on several sites in the area of prehistoric occupation that may have spanned the period of 4000 B.C. to A.D. 1000. Hamlets associated with the Augustine Creek headwaters are the most prolific, although intermittent occupation likely occurred during the Woodland Period.

At Bayview Road, just south of Augustine Creek, Delaware Route 9 heads inland away from the Delaware River a short distance to Silver Run Road where it turns south. Here Silver Run Road passes through the Augustine Wildlife Area. Where Silver Run Road crosses Silver Run distant vistas of the wetlands of the Augustine Wildlife Refuge, to the east and west, are afforded the traveler. The Silver Run marshes remain to this day tidal marshes essentially unaltered by man. A zone located at the mouth of Silver Run is a prime area for fish production in the Delaware estuary and Silver Run is the nursery ground for juveniles of a great variety of fish species.

A very short distance south of the Augustine Wildlife Refuge, Silver Run Road turns sharply to the west where, to the east, a small, cultivated field sits nestled among the wetlands. Unlike the farms further inland, here the fields are much smaller and take irregular shapes accommodating the hydrologic conditions of the area. Just past the farm field, Silver Run Road crosses an “island”, known as Twin Bridges, in the Appoquinimink Creek. The island is located at the point where the Drawyer and Appoquinimink Creeks join to form the Appoquinimink River. Vast expanses of the marshes to the south and northwest can be viewed from this tiny “island” crossing. Together with the Blackbird Creek marshes to the south, the Appoquinimink River marshes are the only large marsh system in Delaware that has remained essentially undisturbed by man. These marshes are significant habitat to many species of
wildlife, including deer, fish and birds. The area is important as a nursery for several fish species including white catfish, weakfish, channel catfish, spot and eels. Breeding birds most common to the area include several species of ducks, egrets, herons and birds of prey.

The Appoquinimink River marshes are also significant as the location of an important archeological area, the Hell Island Site. Many stone tools and tool fragments and ceramic shards have been found in the area, all of which provide strong evidence of occupation dating to A.D. 600-900.

Silver Run Road continues in a southwest direction and, emerging from the marshes, traverses a relatively narrow flat plain along which more of the characteristically small, cultivated fields interspersed among the wetlands can be viewed. At Old Corbit Road, Delaware Route 9 takes a sharp turn due south and becomes Thomas Corner Road for a very short distance and then turns sharply to the southwest along Thomas Landing Road. Just before approaching Taylors Bridge Road is another example of the historical settlement patterns of this area. Near the intersection of Thomas Landing and Taylors Bridge Roads is Silver Hill Farm, the early 19th Century brick dwelling of Joseph W. Vandegrift. Vandegrift is believed to be a descendent of the late 17th Century Dutch settlers in the area.

Delaware Route 9 continues along Taylors Bridge Road in a southeast direction generally along the edges of the vast marshlands that extend to the Delaware River and that predominate this area. The area affords excellent views of the smaller farms that line the marshland edges and is exemplary of the accommodation of the use of land to the hydrologic conditions in the Eastern Area. The mix of views seen from Taylors Bridge Road, alternating between marshland, as the road crosses the streams, and cultivated fields and farmsteads provides a clear understanding of the natural physical conditions of the area and their influence on the historical development patterns here. Although some recent residential development, for example Odessa Chase, has occurred along Taylors Bridge Road, the area is still rural in character and visual intrusions are minimal. Just before reaching the crossing of Hangmans Run, a tributary of the Appoquinimink River, one of the larger farms in the area presents a picturesque view of its fields and farm structures against a backdrop of the mature woodlands that line the marsh edges along Hangmans Run.

Continuing south along Taylors Bridge Road, views of a series of farm fields, defined by the mature woodlands that line the marsh edges present themselves along the easterly side of the road. Approaching Union Church Road to the west is another historical reminder of the settlement patterns in the area, the Naudain House, built around 1825. At this point, Taylors Bridge Road makes a sharp turn to the left and back to the right to head due east. Just past these curves in the road, an expansive view, to the south, of the farm fields lining the marsh edges of Blackbird Creek opens to the viewer. Highlighting this view is the Huguenot House, dating from some time prior to 1735, one of the oldest structures in New Castle County. The Huguenot House was built by one of the area’s earliest settlers, Elias Naudain, who emigrated to
this country from France in 1686. The property was purchased by William Corbit in the early 19th Century and became one of his many farmsteads, the view of which can still be seen today.

To the east of the farmstead Taylors Bridge Road crosses, via Taylors Bridge, the Blackbird Creek. From the bridge, to the north and south, can be seen the vast expanse of a major portion of the Blackbird Creek marshes. The Blackbird Creek system together with the Appoquinimink River marshes, make up the only large marsh system in Delaware that has remained undisturbed by man. In addition to the environmental beauty that can be viewed from various locations, the marsh system contains numerous sites of prehistoric occupation.

Beyond the marsh to the Eastern is another small farmstead at the point where Delaware Route 9 takes a sharp turn to the south where it becomes Flemings Landing Road. Next to the farmstead is a reminder of the part maritime culture of the Eastern Area, the Reedy Island Range Rear Light. First erected in the 1870’s by the United States Coast Guard as an aid to navigation on the Delaware River, it was reconstructed in the early 20th Century because of changes made to the shipping channel. The Rear Light, as it exists today, is constructed of cast iron pipe segments on a poured concrete foundation.

Continuing south on Flemings Landing Road, immediately to the east lies the Taylors Bridge School, constructed in the 1920’s, as part of an educational reform program in Delaware and the philanthropic educational efforts of Pierre Samuel DuPont. The school was one room, typical of the rural schools in Delaware and was built to serve the rural white children in the Taylors Bridge community. The new school in Taylors Bridge for black children no longer stands.

Flemings Landing Road runs parallel to the Delaware River passing close to the Cedar Swamp Wildlife Area. Although the Cedar Swamp cannot be viewed from Flemings Landing Road, direct access to it is available via Cedar Swamp Road. The Cedar Swamp was once a predominantly freshwater marsh with an abundant growth of Atlantic White Cedar. However, during a hurricane in 1878, the swamp was inundated by a tidal wave that breached the barrier beach. The tidal wave destroyed the pier, buildings and roads of Collins Beach, a popular summer resort in the 1870’s and a regular stop on the excursion route of steam powered side-wheelers serving Philadelphia and Wilmington. The cedar trees exist only as a forest of skeletal remains, but the Swamp still serves as a very attractive breeding and migratory feeding grounds for waterfowl and raptors. Muskrat, raccoon and deer also inhabit the area.

Past the Cedar Swamp Wildlife Area, Flemings Landing Road continues in a southeast direction where views of the characteristic small farmsteads of the area remain. There are 3 particularly pleasing viewsheds of these farms on both sides of Flemings Landing Road between Saw Mill Branch Road and Flemings Landing at the crossing of the Smyrna River. Those to the east of Flemings Landing Road lie within
the irregular folds of the Cedar Swamp marshes separated from them only by the mature upland woods that provide a backdrop and definition to the farm fields. Those to the westerly side of the road are similarly situated along the Sawmill Branch, a major tributary of the Smyrna River.

1.3.6 Management Strategies for Visually Degraded Areas
Two basic categories of visually degraded landscapes and intrusions exist in Southern New Castle County. The first category includes elements such as industrial, commercial and utility facilities that would be prohibitively difficult and/or expensive to enhance or improve the landscape’s visual potential. The second category includes elements in or conditions of the landscape, such as small utilitarian and unsightly structures or graffiti scarred structures wherein the visual quality of the landscape could be improved through a management approach.

While many of the visually degraded settings in the second category are minor in size and scope, the overall negative effect on the scenic landscape can be significant. A small electric transformer station, a dilapidated structure of any type or a collection of unused vehicles or equipment can negatively impact an otherwise scenic landscape. In such instances, an entire landscape can be negatively impacted by one visual intrusion. Three basic, and relatively simple, management strategies can be applied, either individually or in combination, to eliminate the types of visual degradation listed in Appendix 1.

1. Clean Up, Pick Up, Removal, Policing Programs
   • Applicable to trash, junk and other debris left along roads or collected in yards.
   • Elimination of “dumping” sites along roads by fencing or earth and boulder berm placement.
   • Regular police patrol.
   • Strict enforcement of ordinances prohibiting dumping.

2. Vegetative Screening
   • Applicable to dilapidated or otherwise unsightly structures, unused equipment storage, dumps, etc.
   • Use of conifers, native deciduous vegetation, or brushy successional thicket.

3. Graffiti Clean Up Programs

1.3.7 Landscape Categories Warranting Special Consideration

1. New Residential Subdivisions
Southern New Castle County’s Northwest Area has been, for a number of years, increasingly attractive for residential development. A rural setting with vast views of farmland and farm complexes has attracted numerous homebuyers to this area and has
been a major selling point in the marketing of homes. Current trends clearly indicate that residential development will continue; and without protection, those now bucolic views will disappear and be replaced by similar residential development. Furthermore, the views and scenic vistas from roads will be increasingly dominated by such developments. At a somewhat slower pace, similar development has been taking place in the northwestern part of the Eastern Area; however this trend is expected to increase dramatically in the future as New Castle County implements its sewer service expansion program south of the Chesapeake and Delaware Canal. The peaceful, rural and habitat-laden wetland landscapes that attract so many people to Southern New Castle County are being threatened by their own desirability.

There are, however, a variety of techniques that can be employed to protect visually and environmentally significant natural resource areas. Such techniques are presented in detail in Part 4 of this study. At a minimum, however, protection can be achieved by screening from view those residential developments that must be placed within major view sheds. The retention of existing vegetation, through careful subdivision design, will often serve an important screening and buffering function.

2. The Roads
Although often thought of as agents of change and destructive to the rural landscape in terms of traffic, noise, pollution and litter, roads are an important element of the visual landscape and cannot be overlooked. They are a part of the historical, cultural and visual landscape of an area and represent, therefore, a unique resource.

Many of the roads in Southern New Castle County simply replaced what were originally paths used by wildlife in search of food, water and shelter. Such paths were later used by native American Indian Tribes as hunting and travel corridors and routes between permanent and seasonal encampments. Beginning in the 1700’s a new network of roads would replace the ancient paths to facilitate the growing economy of the colonies.

For the purpose of this visual analysis, three major categories of roadways have been identified.

a. Low Roads
These are roads that generally traverse the low lying wetlands and marshes of the Eastern Area often turning and twisting to follow the highest surface points and to facilitate crossing the stream channels at right angles. Examples are Delaware Route 9 and U.S. Route 13.

b. High Roads
These roads generally follow the highest elevations between the rivers and creeks to serve the agricultural areas on either side of the road. Some examples are Dutch Neck Road, Port Penn Road, Bayview Road, Paddock Road, Bethel Church Road, Churchtown Road and Bunker Hill Road.
c. Intermediate Roads
These are the roads that connect the Low and the High Roads or as routes serving the settlement process, for example farms, mills, homes, towns and villages.

Roads are also used in this analysis as a visual indicator of landform and of the relationship among landscape categories. For practical reasons the roads in the Eastern Area were constructed primarily along the higher elevations centrally located between watercourses. Particularly difficult were construction of roads across the vast stretches of wetlands and marshes along the Delaware River coastline. In the Northeast and Southeast Areas of Southern New Castle County there were significantly less limitations on road location and there exists a denser pattern of roads in those areas. U.S. Route 13 appears to have followed a course that separates the differing landforms and resource characteristics of the eastern and western halves of Southern New Castle County.

As elements of the overall scenic landscape, roads are more than connectors of places. They are as integral to the historic and cultural heritage of an area as are any other resource. Decisions to improve or otherwise alter a roadway should proceed only after a full understanding is achieved of the cultural, historic and scenic impacts likely to result.

There will be many difficult choices to be made regarding roadway and bridge capacity and safety improvements as development in Southern New Castle County continues. Consideration of the loss of valuable scenic and cultural resources must be part of the process of road improvement design and construction.

A major element of this scenic analysis is the delineation of a scenic road network. Included in Part 3, scenic roads are considered among the first priorities for protection.

3. Road Edges and Banks
The scenic quality of roads is considerably enhanced if road edges and banks are maintained in a manner that permits the survival of native vegetation. As such, consideration should be given to a planting program along the banks and edges. Such programs exist in many other states, including Maryland.

1.3.8 Conclusion
The inventory contained herein documents the wealth of scenic resources existing in Southern New Castle County. Even many of the developed portions of the Northwest Area retain enclaves of scenic as well as historic resources clearly documented herein. They are, however, threatened by the increasing development pressures in this area.
Equally threatened by such pressures are the natural resources of Southern New Castle County. Section 1.4, following, contains a more detailed inventory of the wide variety of these resources and the processes and life forms that exist here.
1.4 Natural Resources Inventory

1.4.1 Introduction
The importance of inventorying the natural resources of the Southern New Castle County area lies in the need to understand the relationships among the region’s resources and how they affect land use. Natural resources seldom exist or function independently. A good example of this is the relationship between an area’s soils and its vegetation. Within the focus of this study it is important also to understand the ways in which natural resources affect the use of land. Terms such as “productivity” and “carrying capacity” relate strongly to the use of land, particularly in areas experiencing continuing and expanding growth pressures. The existence of resources presents limitations to different land uses, ranging from minimal in a preservation area to extreme in an area of intense industrial development. An understanding of an area’s resources helps in planning for their protection, as well as in planning for orderly growth and development.

The importance of the relationship of natural resources to land use policy is the key to this portion of the study. With that in mind, the following resource site classes are discussed:

Physiography
Geology
Soils
Steep Slopes
Surface Water – Hydrology, Floodplains, Riparian Buffer Areas, Whole Basin Management
Ground Water
Water Resource Protection Areas
Wetlands
Forests and Vegetation
Critical Natural Areas
State Resource Areas

The above resources are important not only because of their presence in the study area, but because of their significance to the land use planning process.

In addition to the resource descriptions, sewer and water issues are discussed in the context of broader water resources issues, primarily due to their relationship to and reliance upon natural water sources for availability and distribution.

For a graphic depiction of natural resources, see Figure 7.
1.4.2 Physiography
There are two physiographic regions in the entire County; the Atlantic Coastal Plain Province and the Piedmont Province. That portion of the County south of the C and D Canal is entirely Coastal Plain. This area is characterized by stratification of sedimentary deposits that reach a maximum depth of 2400 feet in the southeast corner of the County and this study area. These strata tend to be very distinct in formation and composition, and are discussed further under geology.

1.4.3 Geology
It is this discipline which distinguishes between the physiographic strata and develops the characteristics which affect such features as water bearing ability, structural carrying capacity, and agricultural yield potential. The surface geology is made up of soils, which are the weathered decomposition and disintegration of the exposed rock layer. Subsurface geology is especially important in this study area because of an exclusive dependence on groundwater for domestic, agricultural and industrial purposes. The oldest and deepest of the sedimentary layers is the Potomac formation. The ingredients of this layer are sands, silts and clays which have originated from marine deposits. High water tables are characteristic of this formation. In addition, unconfined aquifers, i.e. those aquifers relatively near the surface which draw from broad areas of porous materials containing water, exist in this formation.

The Columbia formation is the primary surface layer of geology found in the Coastal Plain. It is comparatively young at about one million years old and is made up of sands and gravels of glacial or wind-blown origin. Other than its obvious significance as the exposed surface layer, the Columbia grouping of formations is the material which serves to filter and conduct surface water into the aquifers found in deeper formations. The condition of the upper layers plays a major role in the quality of the groundwater. Contamination situations on the surface from inefficient septic systems, industrial waste, agricultural chemicals, or saline intrusion can all have negative effects on the groundwater aquifers. Since the aquifers are essentially subsurface storage containers made up of sands, gravels and rocks, the quality of the water can be affected by accumulated degradation. More discussion of groundwater issues occurs in the water resources section of this study, but it is important to understand the role played by geology in the storage and provision of useful water.

1.4.4 Soils
The distribution of soils associations in Southern New Castle County is less complex than in the northern area of the County. In the southern portion of the study area, the Atlantic Coastal Plain comprises 100% of the geography. On the contrary, the northern portion of the County includes both the coastal plain and the Piedmont Plateau region. Within the coastal plain of Southern New Castle County, five soil associations exist and are arranged in broad, generalized areas, without the often abrupt edges found where there are more extreme topographical changes.
The MATAPEAKE-SASSAFRAS-URBAN LAND association occupies the largest area of Southern New Castle County in the upland area of the northwest region of the study area. This is also the most prevalent association found in the entire County. The series is characterized by upper layers of silt loam to a depth of several feet. A wide variety of crops do well in this soil, with typically high yields. Erosion of this soil can be problematic; however, in Southern New Castle County the prevalence of significant slopes is rare, thus negating any serious concerns about erosion. Where caution is appropriate is near natural stream channels during times of surface runoff.

The second largest association in the study area is that of SASSAFRAS-FALLSINGTON, found in the south-central area, between Townsend and Smyrna. This series contains moderate amounts of silt and clay. As with the Matapeake series, the series has strong agricultural productivity and is susceptible to erosion where slopes exist. Much of this series is found in near level conditions.

The third most prevalent association is the FALLSINGTON-SASSAFRAS-WOODSTOWN which is found in the southwest corner of the study area. This association is characterized by poorly drained soils and, like previous associations, is an upland Coastal Plain soil. This soil can be productive when properly drained by either ditches or tiles. The water table beneath this area fluctuates seasonally, causing it to dry slowly in the spring. Its agricultural use is less favorable than other soils found to the north.

A large tidal marsh occupies much of the eastern boundary of the study area and is strongly associated with an adjacent series known as the KEYPORT-ELKTON association. Despite the proximity to the tidal marsh, this association is moderately well drained. Under a thin plow layer is deep subsoil made up of silty loam and silty clay. This association is very dependent on good drainage practices; ditches have been found to be preferable to tile lines. The Elkton portion of this association is poorly drained and subject to a high water table.

For the most part, the soils found in Southern New Castle County are productive agricultural soils, as evidenced by the historic proliferation of farms in the area. Most of the area suitable for farming has long been cleared of forest and has seen a variety of crops. These soils are also quite suitable for various forms of development, including structures, roads and utilities. This suitability is a dilemma for agricultural interests, as development pressures on these lands have increased. Land development growth has occurred at a quick rate in recent decades in both the greater Wilmington-Newark area and the Dover-Smyrna area. The study area lies in the middle, and is seen by many as the most appropriate area to absorb the continued growth. Unfortunately, such growth can only occur at the expense of the agricultural industry.

Another important distinction in Southern New Castle County is the difference between the highly productive agricultural soils to the west and the coastal-influenced soils along the Delaware River which offer limitations to most uses except conservation. Used as an
indicator, soils offer guidance on appropriate uses of land. Clearly, such guidance should be a component of future land use decisions in the study area.

1.4.5 Steep Slopes
Significant topographical changes in Southern New Castle County are rare, due in part to the presence of the Coastal Plain underlying the entire study area. Nonetheless, mapping indicates those areas of between 5 and 15% (slopes do not exceed 15% here). As shown, areas in the range of 5-15% slope surround the mapped watercourses. The balance of the study area can be assumed to be of less than 5% slope. As would be assumed, topography is not a constraint to agriculture or most forms of development, with the exception of the importance of constructing adequate drainage channels where needed.

1.4.6 Surface Water

1. Hydrology
   a. Streams and Rivers
      The eastern boundary of the study area is the Delaware River, the predominant water feature in the region. Along with the Delaware River, the Appoquinimink and Smyrna Rivers, Blackbird and Drawyers Creeks, and the C and D Canal comprise the major waterbodies in the Southern New Castle County area. Each one of them has an elaborate system of tributaries which have affected the way land has been used in the past and will continue into the future. The C and D Canal is a manmade navigational channel constructed in part in the alignment of the former St. Georges Creek. It connects the northern reaches of the Chesapeake Bay with the Delaware River. The Canal is about 12.2 miles long, 450 feet wide, contains no locks and is tidal. The Appoquinimink River is about 16 miles long and originates in the central part of the study area west of Middletown. It flows through a complex system of marshes near its merge with the Delaware River. Blackbird Creek is also about 16 miles in length and originates in the Blackbird Forest in the southwest portion of the study area. The Smyrna River is 10 miles long and finds its origin near Clayton. This river makes up most of the southern boundary of New Castle County.

      Along the western boundary are several drainage basins associated with rivers which discharge into the Chesapeake Bay. The Chester River begins in New Castle County and flows for 2 miles before entering Maryland. Of lesser magnitude in the study area are the Great Bohemia Creek and the upper reaches of the Sassafras River. Along with Back Creek, these waterbodies drain the western regions of Southern New Castle County.
b. Water Impoundments
Several significant water impoundments are found in the central portion of the study area. Two of these are within the Appoquinimink Creek watershed on two of its branches. Noxontown Pond was created by a man-made dam on the Appoquinimink Creek on lands of St. Andrews Academy, a private preparatory school. This is the largest water impoundment in the study area and one that has been monitored regularly, due to its association with an academic institution. Noxontown Pond was dredged approximately ten to fifteen years ago and today serves many purposes for St. Andrews, including a biology classroom, recreation for the school's students, and as the site for regional rowing regattas. The water quality of the pond remains high, due in part to St. Andrews’ ownership of the pond, a majority of its perimeter, and almost half of its watershed. Carefully managed agricultural practices are employed on those lands, under the direction of the school. A second and somewhat smaller impoundment lied just north of Noxontown Pond on a northern fork of the Appoquinimink Creek. This waterbody, known as Silver Lake, ceased to exist as an impoundment in the fall of 1999 when flooding caused by Hurricane Floyd destroyed the dam and Silver Lake Road which crossed the dam. The State Division of Highways reconstructed the structure and once again filled Silver Lake. A third impoundment, also part of the same Appoquinimink watershed, is Shallcross Lake, which was created by the damming of Drawyers Creek. These three impoundments all lie within the same general area, northeast and southeast of Middletown. While smaller impoundments can be found elsewhere, these three represent the most significant waterbodies.

c. Water Discharges
Water discharges into the surface waters of the study area are varied. A regional sewage treatment plant discharges treated water into the Appoquinimink Creek near Odessa and has been doing so for several decades. In addition, the County operates one sewage treatment facility (Water Farm 1) with another under construction (Water Farm 2). This facility utilizes sewage processing equipment, settling ponds, and spray irrigation of agricultural fields. Municipal stormwater discharges from Middletown, the region’s largest municipality, occur in several branches of the Appoquinimink Creek. Agricultural runoff tends to be non-point source in nature; when managed properly, such runoff can be distributed in a manner that minimizes impacts to surface waters. Such management techniques include grass swales, vegetated buffers, non-disturbance of steep slopes, and minimum soil tilling. As future growth occurs, additional alternatives to managing stormwater generated by impervious surfaces will be needed.

2. Floodplains
The 100-Year Floodplain depicted on accompanying mapping provides a generalized depiction of floodplains oriented in an east-west direction, primarily adjacent to the Delaware River. This is consistent with the location of the tidal marshes noted in the Soils section. The locations of floodplains have been determined by FEMA in studies.
that evaluated topography, surface water characteristics, and historical flood data. Each of these floodplains is associated with a stream, creek or river. Most of the floodplains in Southern New Castle County are broad in width, due to the relatively flat adjacent terrain. In addition, several of these floodplain systems extend well past the central part of the study area, again attesting to the lack of extreme topographical features. On a minor note, the southwest corner of the study area contains a small system of floodplains that are not associated with the Delaware River. This area drains to the Bohemia River, located on the northeast side of the Chesapeake Bay.

3. Riparian Buffer Areas
To a great extent, the mapping of Riparian Buffer Areas (RBA) in the study area is a composite of other natural features. However, it is important to understand the extent and value of the RBA network. The RBA is comprised of two adjacent zones on either side of a watercourse which contains vegetation, either natural or introduced, which filters sediment, decreases erosion, provides shade to reduce water temperatures, and supplies habitat for terrestrial and aquatic organisms, among other things. RBA’s generally encompass floodplain land and protect the unique settings of wetlands, ponds and lakes. The UDC prescribes a definition for RBA’s in Article 33 and provides development regulations in Article 10. Protecting RBA’s results in a network of healthy, stable waterbodies with unique habitats.

The Riparian Buffer Areas are extremely important to the environmental health of the region's drainageways. Creeks support an abundance of wildlife, which depend on suitable conditions to thrive. This healthy system is also highly dependent on the bank stabilization afforded by tree and shrub roots. As stated earlier, the RBA is really the resultant system of preserved watercourses, essential for aquatic and terrestrial life. Specific information regarding boundary determination can be found in the UDC and is an essential component of any land development proposal. The requirement to delineate and preserve RBA's has been enacted by New Castle County to establish these riverine and waterbody systems during the development process, i.e., at a time when land changes use. It is intended that, as a site is developed, the RBA zone will be protected during construction and if necessary, enhanced with additional appropriate plant material. Individual sites will eventually integrate with naturally occurring RBA's, providing a seamless network of riparian buffer areas.

The existing network of forested riparian areas tends to be very dense along portions of the Delaware River and the Chesapeake Bay drainage area. The southwest corner of the County is characterized by sporadic and fragmented RBA’s, reflecting the soils and wetland conditions in this area and the man-induced alteration of riparian areas. The balance of the study area tends to mimic the pattern of watercourses present and the impact of traditional farming practices and development patterns.

4. Drainage Basins
The Coastal Plain, which comprises all of the area south of the C and D Canal, is a geologic province characterized by broad, flat drainage basins with complex water courses. Within the study area of Southern New Castle County, there are eleven
distinct drainage basins. They are definable geographically because of the topography which causes surface waters to drain to lower elevations. Most of the basins drain to the Delaware River, while approximately equal and smaller areas drain to the C and D Canal at the northern boundary and to the Chesapeake Bay through Maryland to the west. These basins generally are named for the stream, creek or river that collects its runoff. These waterbodies are characterized by having originated in the Atlantic Coastal Plain and having minimal gradients. Their basins tend to be small in area, as compared to those of the Piedmont Region in northern New Castle County. This distinction is a result of the rather flat topographic features which can cause drainage to split into two adjacent drainage basins. The following is a list of the eleven drainage basins which make up the study area:

1. Chesapeake and Delaware Canal
2. Augustine Creek / Silver Run
3. Drawyers Creek
4. Appoquinimink River
5. Blackbird Creek
6. Cedar Swamp
7. Smyrna River
8. Cypress Branch
9. Sassafras River
10. Sandy Branch / Great Bohemia Creek
11. Back Creek

1.4.7 Ground Water
The significance of ground water lies with the fact that all potable water sources at this time in the study area are from ground water. These sources not only supply existing development, but are being projected to supply planned growth in the area. Quality of ground water sources has been the subject of increasing interest among governmental authorities in recent decades. This trend most likely will be magnified as pressures for potable water increase with increased land development. In southern New Castle County the conversion of agricultural lands to residential, commercial and employment centers has given rise to the need to develop a plan for monitoring ground water quality and quantity. As New Castle County embarks on a program to manage growth south of the C and D Canal (by establishing growth areas within which development will be encouraged through investments in public infrastructure), the growth of a ground water monitoring program would seem appropriate. In 1996, the Delaware Geologic Survey began a study entitled "Design, Development and Implementation of a Ground-Water Quality Monitoring Network for Southern New Castle County, Delaware". This study was prepared for the NCC Department of Public Works (now Special Services Department) and the Water Resources Agency for New Castle County (now the University of Delaware Water Resources Agency). The four-part study culminated in Dec. 1997, and recommended continuing implementation measures.
The Southern New Castle County Scenic River and Highway Study

The DGS study initially identified the location of existing wellheads in the study area and established monitoring criteria. Based on the distribution of wellheads it was determined that additional monitoring wells would be needed to balance the geographical pattern of information sources. The study area included the more than 200 square miles of New Castle County south of the C & D Canal. The bases for this research lie in several predecessor studies undertaken in this area. For instance, in 1995, it was documented that elevated nitrate concentrations in the unconfined aquifer were present which exceed levels considered normal. Such increased levels are most likely attributable to human activity. Elevated levels were found in the unconfined portions of the Englishtown-Mt. Laurel and Rancocos aquifer systems and in the Columbia aquifer. Similar levels have not been detected in the entire aquifer system.

Three studies investigating the presence of herbicides in the groundwater have been conducted since 1980 (1985, 1987 and 1993). While the results vary, each study found some degree of contamination. It should be noted that these studies were done for particular areas and were not as comprehensive and locationally distributed as the DGS ground water study. However, the results are indicative of herbicidal presence in some areas and suggest that further and continuous monitoring is warranted.

The DGS study incorporated sampling from fifty-two (52) well sites, a combination of both existing wells (34) and new locations (18), all of which were chosen for geographical distribution. The testing of well samples was a coordinated and cooperative effort among the New Castle County Department of Special Services, the Delaware Department of Agriculture, and the Delaware Department of Public Health. Private laboratories were used for analysis. As many as thirty-three (33) parameters were measured during the phases of the study, including pH, temperature, dissolved oxygen, metals, organic carbon, radon, and pesticides. Detailed results can be found in the DGS study; however, for the purposes of this study, it is significant to understand that almost half the wells had a pH value outside the range of 6.5 to 8.5, the Secondary Maximum Contaminant Level (SMCL) set by the United States Environmental Protection Agency. Average nitrate-nitrogen concentrations greater than the background level were found in 63% of the wells sampled, while only three shallow wells had levels exceeding the MDL, or maximum daily level. On the other hand, the overall shallow water table aquifer in the study area had 96% of its samples exceeding the background level.

The DGS study concluded that the established monitoring program should be continued as a way of building a historical database that spans seasonal and annual variations. The evidence gathered warrants more than casual interest on the part of all parties involved in land use planning in the region. As of this writing, the monitoring begun in the DGS study has ceased. With the prospect of continuing and accelerated growth in Southern New Castle County, this historic base-line information would allow for comparative monitoring in the future.
1.4.8 Water Resource Protection Areas

First identified in a study and map series entitled "Water Resource Protection Areas for City of Newark, City of Wilmington, New Castle County, Delaware, 1993" (and as later amended), WRPA's include different classifications of recharge areas and wellheads. As the knowledge of this subject increases and the significance of groundwater in land use planning becomes greater, regulations affecting wellheads have also increased. The Unified Development Code devotes considerable emphasis to the subject, particularly Articles 10 and 33. An applicant for land development permits must locate and identify all wellheads and recharge areas within a given distance from the subject site and plan the development in such a way that the integrity of the wellhead is not compromised. The primary source for this information is the mapping referenced above prepared by the Water Resources Agency for New Castle County (now affiliated with the University of Delaware). These maps indicate the location of all known wellheads for public water supply and generalized mapping of those areas known to be significant recharge areas.

Wellheads are those locations where water wells have been drilled and maintained for any of several purposes, including domestic water supply for a single house or a community, industrial water supply, agricultural irrigation, or for purposes of testing/monitoring. The significance of wellheads in any location is to maintain consistent and high quality production from a given well and ensure that groundwater infiltrating to the supply aquifer not be contaminated. Sources of contamination can arrive from many locations, given the complexity of the subsurface structures through which water travels. However, the shortest route to the aquifer is from those areas in close proximity to the wellhead itself. Therefore it becomes very important to protect the area around wellheads from all forms of contamination and ensure that the area remains as pervious as possible to facilitate recharge, i.e., the replenishment of the aquifer supply from sources such as direct rainfall and watercourses traversing the recharge area. Of less predictability is the recharge that might occur from subsurface sources dependent on the local geologic structure.

1.4.9 Wetlands

The accompanying mapping depicts the extent of mapped wetlands in the study area pursuant to the National Wetlands Inventory (NWI). Although this mapping is generally accurate on a gross scale, not all wetlands are shown on NWI maps. The determination of site specific boundaries by application of criteria found in the Unified Development Code (UDC) would yield a far more precise boundary, as well as depict those areas not referenced on the NWI map. The criteria used to designate wetlands are presence of hydric soils, indicator plants, or water. A landowner seeking approval of development plans must engage the services of a qualified wetlands delineator to prepare the necessary wetland boundary mapping.

Two forms of wetlands are generally found in Southern New Castle County. One is Tidal Marsh wetlands whose extent in the study area correlates highly with the existence of streams and drainageways, particularly along watercourses associated with the Delaware River. The second type is found in the southwest corner of the study area where a very
diverse, "spotty" pattern of wetlands is found. These are known as **Delmarva Bays or Coastal Plain wetlands**. They are reflective of the soil conditions in the area, which are of low permeability and have a high water table. Correspondingly, wetland plant communities are also prevalent in the area.

The presence of wetlands is a development limitation, due to regulations requiring their preservation. The intent is to maintain the County’s remaining wetland systems, particularly when such areas are contiguous to one another. The beneficiaries of such preservation are the plant and wildlife communities dependent on wetlands habitat for survival. Among other benefits, wetlands provide a rich and abundant environment for the propagation of small mammals, birds, insects, and reptiles. Connectivity of wetland communities is of prime interest to all involved in land development due to the ability of wildlife to extend their habitat by migrating along relatively narrow corridors. Where possible, it is desirable to protect or create these corridors which interconnect larger wetland habitats.

### 1.4.10 Forests and Vegetation

The current presence of forests or lack thereof in the study area is a product of two factors, the first being the reduction of forested cover for agricultural purposes and the second being the preservation of woodlands by governmental and conservation organizations. Together, these factors have created a pattern of forestation that is diverse, fragmented and often related to other natural systems. A variety of forests are associated with water drainage areas, primarily because the underlying soils, slopes and moisture do not support agriculture. In many cases, these wooded areas provide a filtration buffer for the streams, deterring erosion and stabilizing stream banks. While some forests are found in the tidal wetlands near the Delaware River, the vast majority of forests in the study area are to be found in the southwest region, south of Townsend. Here, poor natural drainage has left the area unsuitable for either agriculture or development. These forests contain numerous species of oak, as well as yellow poplar, beech, sweet gum, and black gum.

Protected forests are found in the above-mentioned southern part of the study area, particularly the State owned Blackbird State Forest, where forest management techniques are employed and passive recreation is encouraged. The State of Delaware actively pursues the acquisition of forest lands statewide for the above purposes, often in cooperative ventures with federal and private organizations.

Other than distinct stands of forest, vegetation is often concentrated along waterways in riparian corridors. Trees in these areas range from large sycamores and willows to smaller alders, hollies, and maples. The tree root systems provide the stream banks with necessary stability and the tree canopy shades the water, maintaining lower temperatures conducive for fish and insect breeding. One of the most common plants to be found in the wetlands areas is phragmites, a reed-like plant that dominates other plant communities and expands into vast areas.
Due to the lack of extensive naturally vegetated areas in the study area, wildlife is correspondingly limited. This does not mean that there are no mammals, reptiles, birds, fish or insects to be found, for there are such populations in most of the areas not in agriculture or development. The tidal marshes of the Delaware River are not only home to much wildlife, but also attract considerable numbers of migratory birds. The abundance of plant life and fish in the tidal marshes provides food and a stopping point along the Atlantic flyway. Small mammals, represented by the muskrat, inhabit the marshes, as do deer and raccoons. Carp is an abundant fish in these waters, as are white catfish, weakfish, channel catfish, spot and eels. Many of the marshes are also home to a variety of birds, such as ducks, egrets, herons, and birds of prey.

1.4.11 Critical Natural Areas

The identification of significant natural areas in New Castle County began in 1972 with a statewide inventory conducted by the Delaware Nature Society (DNS). In 1975 The New Castle County Natural Areas Study was prepared in conjunction with the Department of Parks and Recreation. Kent and Sussex Counties were also inventoried in 1976 and the combined three county study was published by DNS in 1978 as Delaware's Outstanding Natural Areas and Their Preservation. This document contained goals, criteria, and priorities for a program of natural areas preservation. Shortly after the document’s publication, legislation was enacted at the State level assigning responsibility for managing a Natural Areas Preservation System to the Department of Natural Resources and Environmental Control (DNREC), Office of Nature Preserves. One outcome of this legislation, which evolved over time, is a voluntary program in which owners of designated areas may dedicate such areas to the State’s system of Nature Preserves. Such dedication takes the form of a permanent conservation easement for which the landowner may accrue income and other tax benefits.

Currently, the State classifies such areas as Natural Areas Inventory sites, and continues to refine and better delineate them geographically. For regulatory purposes, New Castle County regards the areas as Critical Natural Areas and regulates them according to the UDC.

Under the County’s UDC (Articles 10 and 33), if a proposed development is located within or contains a designated Critical Natural Area (CNA), the developer is required to both inventory and protect the area. The CNA inventory report is required to identify the boundaries of the CNA, describe any proposed CNA disturbance (where permitted), and propose measures to mitigate the disturbance. Applicants are also required to seek comments on proposals from DNREC’s Office of Nature Preserves.

The study area has several designated Critical Natural Areas. The following is a list of those areas identified at the time of this study and their individual significance:

- Biggs Farm - This area along the C & D Canal contains an outcrop of fossilized marine fauna discovered during canal widening and later erosion. It has regional Atlantic Coastal Plain significance due to the 111 mollusks found there.
• Thousand Acre Marsh - This 1160-acre marsh containing 70% open water is the habitat of muskrats and small numbers of mink and otters. The area is highly attractive to waterfowl and other birds whose breeding and feeding habitat is freshwater marsh. Native American artifacts are also found, indicating seasonal encampments.

• Augustine Creek Marshes - This highly productive area is significant for being an essential buffer and feeding grounds for an adjacent Great Blue Heron nesting colony. The colony contains over 100 nests, making it rare in the United States. The marsh is also the site of several prehistoric sites.

• Silver Run Marshes - This is a marsh complex that has remained essentially unaltered by man. It has good water quality and serves as a prime area for fish reproduction and juvenile growth.

• Appoquinimink River Marshes - These marshes, including the Blackbird Creek system, is the only large marsh system in Delaware remaining undisturbed. It has a national scope due to the size and quality of the habitat. The Appoquinimink River varies from 140 to 230 feet in width with a 15-foot deep channel. The area is important as a nursery for several species of fish including catfish, weakfish, channel catfish, spot and eels. Breeding birds include several species of ducks, egrets, herons, and birds of prey. Included in the system is the Hell Island site, an archaeological site of many artifacts of the period between 600 and 900 AD. The Marl Pit site is also present and represents a mineral deposit of Glauconite, or greensand, a complex silicate mineral.

• Pleistocene Plant deposits - This is the only known outcrop of non-marine fossils of the Pleistocene Epoch on the Delmarva Peninsula.

• Noxontown Pond - This impoundment was created in 1736 and covers about 500 acres. It is on the property of St. Andrews School. Further discussion of this site occurs in the section entitled “Surface Water Impoundments”.

• Cedar Swamp - Until a hurricane in 1878 breached its protective barrier beach, Cedar Swamp was freshwater and supported an abundant growth of Atlantic white cedar. That event inundated and destroyed Collins Beach, a popular recreation destination. Several remnants of the white cedar forest may remain. The area supports waterfowl and raptors, as well as raccoon and deer populations

• Blackbird Delmarva Bays - This area, formerly known as Tyabout Carolina Bays, is sometimes referred to as sinkholes, whale wallows, round ponds, black bottoms, or loblollies. The bays are actually round with oval depressions and rims and vary in elevation from a few feet up to 20 feet at the center of the depressions. These geologic enigmas are about an acre in area and can be up to 4 feet deep. They are
located in the Blackbird State Forest and are surrounded by mixed deciduous forests of mostly oak and hickory.

- Blackbird Creek – This waterbody is a largely undisturbed creek system of marshes and a 200-foot wide creek. The creek joins the Delaware River just south of the Appoquinimink River and is generated by many small tributaries in the southwest corner of the study area.

1.4.12 State Resource Areas
State Resource Areas (SRAs) are considered Delaware’s most environmentally valuable undeveloped lands and include parks, natural areas, conservation areas, certain wetlands, forests, farm lands, cultural and geological resource areas. SRAs are important as they provide vital economic benefits, provide wildlife and plant habitat, protect water and air quality and generally enhance the quality of life of the people of Delaware. Such areas were originally designated by the state as a part of the implementation of the 1990 Delaware Land Protection Act (7 Del. C. §75). Recent activity by the state has resulted in revised mapping of SRAs.

Such areas are considered primary candidates for protection and preservation strategies as they encompass the most important of the state’s open space lands and they provide vital economic, social, and environmental benefits to all Delawareans. These benefits can be expressed in terms of ecosystem services, or the processes by which the natural environment produces resources useful to people. In New Castle County, SRAs contain Critical Natural Areas (the county’s legal basis for determining protection levels - see 7 Del. C., Sec. 7508).

Pursuant to the Land Protection Act, it is the State’s responsibility to provide the counties and municipalities guidance on how to meet the requirements of the Acts. The Act clearly stipulates a County role in protecting SRAs and the County has indeed provided a significant level of protection to Critical Natural Areas. Further action relating to State Resource Areas will not be undertaken until a clear understanding of recent litigation regarding the validity of SRAs is understood.

1.4.13 Summary
From a development perspective, the study area presents a wide variety of growth challenges. Due to very restrictive soil conditions and the presence of wetlands, the coastal region presents few, if any, opportunities for development. The bulk of the northern and central sectors are comprised of broad, less encumbered areas that have historically been productive agricultural areas. It is the northern area that has seen the most single-family development in recent years. Despite this, there remain significant areas still in agricultural production. At present, agriculture still largely dominates the economy of the study area. It is no coincidence, therefore, that the towns of Middletown, Odessa and Townsend were founded several centuries ago to support the needs of this
industry. As land use patterns continue to change, these traditional agrarian support centers are being transformed into service centers for the suburban growth of the region.

An understanding of the dynamics and interrelationships of various natural features is critical as an element of the land planning process. This chapter has described the roles played by natural resources and the effect each has on land use. Other chapters of this study will advance this concept in terms of protection opportunities available for the future. Development functions such as transportation, sewage disposal, stormwater management and groundwater availability all relate to a comprehensive land use plan and have their roots in Natural Resources.
PART 2

Resource, Land Use, and Traffic Management Issues
Introduction

Throughout the course of this study, considerable attention has been given to the need for resource management within Southern New Castle County. As documented in Part 1, the study area has an abundance of resources that contribute significantly to the character of the area as a whole. Preserving such abundance, therefore, will not only protect resources but contribute to the region’s overall quality of life.

As is now quite evident in Southern New Castle County, the very resources that give the region its character have made it an attractive area for residential, commercial and office growth. In addition, the proximity of Wilmington to the north and Dover to the south on SR 1, not to mention easy access to Maryland to the west, has contributed to the growth pressures and road improvement needs of the study area.

In some respects, the growth pressures being experienced in the study area have reached a critical stage, particularly in the northern portion of the area slated for additional sewer capacity. Significant growth pressure in this area has existed for several years and the County’s recently adopted Comprehensive Plan Update attempts to address this pressure through a series of growth and infrastructure controls discussed herein.

Clearly the County’s experience in Southern New Castle County attests to the need for continued cooperation among state, county and local agencies and landowners. Without a coordinated effort towards resource management, the protection of the region’s natural, scenic and historic resources cannot be achieved.

2.1 Historic, Scenic, and Natural Resource Protection

The inventories undertaken for this study indicate the existence of numerous yet jeopardized resources in Southern New Castle County. Pressure to develop the County’s remaining agricultural and open lands remains strong and while numerous County actions have provided significant protection to resources in years’ past, careful attention must be given to the cumulative impact of development and the need for cooperative preservation programs that achieve additional levels of protection. Such programs, while partially regulatory in nature, depend even greater on the cooperative actions of landowners and government to work together towards a shared vision of resource protection and managed growth.

2.1.1 Historic Resources

The themes represented by the resources in the study area are typically agricultural. Most of these buildings were built in the chronological periods identified between 1770 and 1870 and referred to as Early Industrialization, Industrialization and Early Urbanization in the Delaware Plan. Some of these sites are identified as archaeological sites and contain remains of buildings or complexes. Patterns of historic resources can be seen across this section of the county. While they are fewer in number, the historic resources
standing to the east of Route 13 tend to remain with their agricultural complexes intact. There has been less subdivision and residential development in the eastern half of the county and many of the roads in this area have remained very scenic. The western part of the study area has experienced much greater development pressure around the towns of Middletown, Townsend, and Odessa, and many of the historic resources in these areas have lost their context or large parts of their complexes.

In the State of Delaware, historic resources are surveyed and catalogued by Cultural Resource Survey (CRS) number. These numbers are organized by county and are kept by the County Planning departments and the State Historic Preservation Office. Most of the CRS files for historic properties were created by surveys conducted 25 to 30 years ago. These surveys were conducted in response to the federal requirement that states create and maintain a list of their historic properties and locations as mandated by the National Historic Preservation Act of 1968.

The catalogue for resources in this study area built between 1790 and 1900 and still standing 20 years ago is fairly good, although the quality of information on these properties varies greatly. Some CRS files contain no more than a simple listing of the property and perhaps its use at the time of the survey; other files might contain building descriptions, sketches, and historical data on the property and owners. The gaps in the contents of these files make determining the significance of a property more difficult for planners in the county when asked to review zoning or development plans. The county uses tax parcel numbers as an identification tool for properties. Tax parcel numbers are very rarely included in CRS files for historic resources, which makes identifying a specific location for a resource very difficult. Once identified, reviewed, and determined to have potential significance, however, there are several regulatory methods and incentives in place to encourage the protection of historic properties in New Castle County.

The first method is listing in the National Register. The National Register is maintained by the National Parks Service and is a federally maintained listing of historic properties with either national or local significance. Section 106 of the National Historic Preservation Act assures consideration of the impact that projects with federal funding may have on cultural resources listed or eligible for listing in the National Register. In the state of Delaware, the CRS is the first method for identifying potentially significant properties.

Because the bulk of projects having impact on cultural resources are private projects, New Castle County has established two protective preservation tools. The first is the Historic Zone Overlay. The Historic Zone Overlay allows the County to identify and designate buildings, sites, landscapes, districts, and objects as significant, and then provides tools to protect these resources as development occurs within the area. Criteria for designation as a Historic Zone follow the guidelines for listing in the National Register according to significance and context with several important additions.
The county provides four categories for the classification of resources deemed significant and qualifying for the historic zoning overlay. These categories provide information for developers regarding the type of resources in the area and the potential bonuses available from the County for the protection of the setting, as well as for the resources impacted directly by proposed development plans. The categories are as follows:

**Villages and Small Nucleated Settlements:** A village or hamlet with common architectural heritage containing at least four individual properties. Views in and out of this category are included in the boundaries of this designation.

**Open Context Site:** A site where the context is dependent upon its being viewed across relatively open land. A buffer of 500 feet around the building or other features of the site are included within the boundary of this designation.

**Enclosed Context Site:** A site where vegetation, topography or existing development limits the context of the site to a small viewing area. In this category a 200 foot buffer is included in the boundary.

**Small Lot Site:** A site in this category is typically located within a village or other developed area. This type of site would not permit subdivision or would permit only one additional building on the site.

Classifications of this type help the County and the private developer understand the criteria that support the significance of historic resources on the landscape and provide parameters to maintain those criteria.

Designation of an Historic Zone requires the review and approval of the Historic Review Board as well the approval of the owners of each affected property thus effectiveness of this tool is only as strong as the commitment of individual property owners.

In addition to the Historic Zoning Overlay, the County has an ordinance which authorizes the Historic Review Board to review applications for demolition permits. The Board can recommend a delay of the demolition process for up to six months in order to gather information regarding the potential significance of the site or to encourage the owner to pursue alternatives to the demolition of the building. The Board does not have the authority to deny a demolition permit, however, so again the ultimate protection of privately owned historic resources lies with individual property owners.

New Castle County also has several incentive programs in place to encourage developers to protect historic resources and associated contexts. The first of these is the “Open Space Corridor”. Open space corridors are required in many large-scale development plans and are used to provide some of the following functional needs: scenic views, stormwater management, recreational space, and the protection of natural site features. These corridors can require many acres of prime land and the County will allow historic resources to be calculated as part of these corridors in large-scale land development plans.
Another incentive available to property owners in the County land plan review process is the transfer of development rights. A transfer of development rights from one property to another utilizes the development value of both properties while allowing one property to remain undeveloped. This incentive provides great potential to protect historic properties but has been underutilized by private owners in land development plans to-date.

The final incentive provided by the county is the Historic Preservation Bonus. This bonus can provide increased densities on a land development plan if the historic resource on the property is protected.

The combination of these incentives and regulatory measures in the County code have proven somewhat effective in protecting historic resources in the study area, but development pressures in the Middletown and Odessa areas are increasing. If designated, most of the resources in this survey would fall within the Open Context and Enclosed Context Site categories in the County Historic Zoning Overlay designation. This type of resource would require open fields and vistas to maintain the integrity of the sites. Without Historic Zoning, maintaining the vistas and buffers that keep many of these sites intact will become more difficult as pressures increase to develop agricultural land for residential and commercial uses in these areas.

It is in this area of the County that the density and quality of historic resources contribute greatly to the scenic character and significance of the area. Settlement patterns and the commercial development of the State over the last two centuries remain apparent in the effect these valuable sites continue to have on the landscape. Regulatory and incentive measures currently in place with the County for protection of historic resources in land development plans remain almost voluntary and have not yet been fully put to the test in this area of New Castle County. Though all sites cannot possibly be protected, it is the goal of this study to try to identify those sites that provide the greatest contribution to the history of the State and to target those sites for proactive protection, either by encouraging Historic Zoning or by developing other means to make protection of these valuable resources an attractive alternative.

2.1.2 Scenic Resources
While scenic resources contribute significantly to the character of a community, their protection has traditionally been seen as too abstract to wholly embrace through the public regulatory process. In recent years, however, New Castle County has in part addressed this issue through several regulatory initiatives derived in part from past studies like this, in particular the Brandywine and Red Clay Valley Scenic River and Highway Studies. These studies, coupled with other initiatives and studies, led to the development of the Unified Development Code, and later, amendments such as the Environment First initiative. Such efforts provide for increased open space preservation and management and require landscaped buffers along scenic roads. In particular, scenic corridors are to be provided along all arterial and collector roads within the Suburban Reserve (SR) and Suburban (S) Districts south of the C&D canal.
To date, such initiatives have contributed to the protection of scenic resources and have resulted in the exploration of additional techniques to protect significant scenic landscapes. Additional progress cannot come solely from new regulatory initiatives but must involve the collective thinking and vision of those living and working in the study area. With this in mind it is important to reiterate that the protection of scenic resources can achieve more than simply protecting an aesthetically pleasing landscape – as defined in the visual landscape analysis undertaken in Part 1, scenic resources generally consist of high quality natural resources (streams, woodlands, meadows, and other life-supporting natural features), as well as historic structures and other man-made features that are compatible with and important to the overall quality of the scenic resource (many of these are identified as landscape accents in Appendix 1).

2.1.3 Natural Resources
The County has achieved much in recent years with regards to natural resources protection and management. Starting with the Unified Development Code, the County developed a multi-faceted approach to natural resource protection that involves a site capacity calculation to indicate the number of acres of a resource that must be preserved, an open space standard that ensures some resources will remain undisturbed, and a series of protection and mitigation standards where resources are disturbed.

A component of the County’s Comprehensive Development Plan Update of 2002 was the New Castle County Conservation Strategy, intended to further articulate the County’s environmental protection strategy and commitment to a clean environment. The strategy contains an inventory of resources, describes how the County protects such resources, and highlights the challenges facing the County in the years to come. Chapter 4, entitled The Path Forward, is intended to more fully understand the environmental issues facing the County and suggests further mechanisms for resource protection. Among the issues of concern is that Delaware is one of the leading states in the nation in the amount of native plant and animal species that have been lost; more than 40% of the state’s plant species alone are considered rare or endangered. Coupled with this are estimates of the Environmental Protection Agency that only a small percentage of the state’s water are classified as drinkable, fishable, and swimmable. While many issues go beyond the ability of the County to intercede, they do underscore the importance of working partnerships among state, county and local agencies and environmental organizations and landowners to address these issues comprehensively.

One outgrowth of the Conservation Strategy is the County’s Environment First ordinances, which provide for open space subdivisions that preserve 50% of a site’s resources and open space. Utilizing the principles of Conservation Design, developers are asked to respect site resources and recognize off-site open space linkages of greenways in their land development planning. In addition, developers are encouraged to “design to the land,” that is, encompass the existing topography into the site plan and minimize the amount of grading and compaction needed during development. This approach can reduce the amount of post-construction stormwater management needed and maintain
important groundwater recharge. In addition, the provisions of this legislation provided for open space management plans consistent with stated development objectives and provide a measure of consistent open space management throughout a region (this is particularly important where off-site linkages occur and the objective is to preserve greenways or biodiversity corridors).

In the County’s most recent 2007 Comprehensive Development Plan Update, emphasis is given to state initiatives that expanded the State Resource Areas (SRAs) mapping (the County’s regulated Critical Natural Areas are a subset of SRAs), revised the Delaware Wildlife Action Plan (WAP) (intended to conserve wildlife habitat diversity of individual species across the landscape), and developed the state’s Green Infrastructure map (intended to direct state program investments for protection activities). The County’s 2007 plan concludes that in general the lands either fully or partially protected by the UDC encompass greater land area than that shown on state mapping, although clearly program objectives differ and resource protection levels vary. What is important to note is that both the County and state have identified resources worthy of protection and are making efforts to accomplish greater levels of protection in the future. Clearly there are opportunities for cooperation that have yet to be realized.

Much of the discussion on natural resources in the 2007 plan addresses new initiatives underway by government agencies and the need to more fully recognize the mechanisms for resource protection listed in the County’s Conservation Strategy. Among them, the need to: further recognize the importance of preserving and protecting biodiversity and habitat linkages, provide a coordinated open space network throughout the County, protect water quality and quantity (including such issues as total maximum daily loads and source water protection), and improve air quality (including such issues as the value of increased tree canopy). Again, many of these mechanisms depend on inter-agency coordination and the creation of working partnerships with environmental groups and landowners.

2.2 Agricultural Issues

Historically, Southern New Castle County possessed some of the most productive agricultural land in the state. As a whole, Delaware contained the highest percentage of Class I and II soils of any state in the nation. Large expanses of farmland covered the landscape and coexisted with small agrarian towns and crossroads. Productivity was high and contributed significantly to the state’s economy.

Much has changed in the intervening years, however. As the northern portion of the County built out and transportation improvements made access to Southern New Castle easier, the building industry availed itself of cheap land and began subdividing prime agricultural land. As of 2002, approximately 26 % of the County was farmland and the majority of it was in Southern New Castle County (Agricultural Census). The loss of agricultural land is permanent and leads to fragmentation of farms and the loss of supporting farm industries and businesses. As farms become more fragmented and
isolated, conflicts arise from increased traffic, complaints of odors, concerns over hours of operation, and a whole host of other issues arising from a suburbanizing landscape.

In light of all this, efforts to preserve the states’ agricultural industries remain strong and significant preservation tools exist both at the state and county level. One of these tools is the Delaware Agricultural Lands Preservation Foundation (DALPF). Established in 1991, DALPF has two major components: agricultural preservation districts and agricultural conservation easements. Districts are created by a voluntary agreement to keep land in agricultural use for at least ten years. Lands are selected under a review and approval process that includes satisfying a scoring system standard. No payment is made to the landowner, but he/she benefits by exemption from real estate transfer, county, and school taxes, as well as protection against nuisance lawsuits.

To permanently preserve farmland, DALPF purchases development rights, imposing a permanent conservation easement on the land. The land must first be in an agricultural preservation district to be considered for a conservation easement. The purchase price is based on the appraised value of the development rights and selections are based on the highest discounts offered by property owners.

New Castle County established a volunteer farmland preservation program in 2003 to purchase easements that restrict subdivision of land, and in 2006 began a partnership with DALPF by donating county funds for farmland preservation on a one-to-one matching basis. All interested land owners first apply to the DALPF program, and if not chosen, are then eligible for the county/state match program.

Also of importance is the County’s rezoning of about 80,000 acres in Southern New Castle County to SR (Suburban Reserve) to encourage preservation of this rural area. SR zoning is a low density district permitting a minimum lot size of 5 acres for individual residential lots, or “open space” subdivisions requiring 60% open space. Sewer service is not proposed for this area and development activity within the county’s jurisdiction has been very low in this area as a result.

Finally, the County has been working to make its Transfer of Development Rights (TDR) program more responsive to landowner interests and needs. Although originally adopted as part of the UDC, the program was not being used. Consequently, the County has been reevaluating its TDR provisions to offer further incentives and bring the program in line with its growth management and sewer services planning.

2.3 Traffic Management Issues

Transportation planning has been ongoing in southern New Castle County since it was instituted in the 1960’s. Major corridor studies have resulted in several upgrades, widenings, and a new limited access, interstate designed, highway SR 1. A number of studies were conducted for the US 301 corridor, namely an earlier Environmental Investment Study (EIS), a Major Investment Study (MIS), and now a final EIS. A final
Record of Decision (ROD) recently approved the Green North + Spur Road as the selected alternative for new US 301. The signing of the ROD by FHWA allows DelDOT to move forward to the next phases of the project including property acquisitions and final design.

The Selected Alternative, Green North + Spur Road, will provide a new four lane tolled US 301 (2 lanes in each direction) limited access roadway on new location, extending generally northward from the Maryland/Delaware state line, west of Middletown, to the vicinity of Armstrong Corner Road, where the new US 301 mainline will curve and extend northeast, crossing over existing US 301, the Norfolk Southern Railroad, and existing SR 896 (Boyd's Corner Road) before curving and extending east and tying into SR 1, north of the Biddles Corner Toll Plaza and south of the CD Canal.

Near Armstrong Corner Road, a two-lane (one lane in each direction), limited access, tolled Spur Road will extend north from new US 301, on new location to interchange with SR 15/SR 896 south of Summit Bridge and the C&D Canal.

New US 301 will provide interchanges with: Levels Road, existing US 301 north of Armstrong Corner Road, Jamison Corner Road, and SR 1 north of the Biddles Toll Plaza and south of the C&D Canal. The Spur Road will provide interchanges with new US 301 near Armstrong Corner Road and SR 896/Bethel Church Road extended (toll-free), south of Summit Bridge.

Currently there are two studies/plans guiding the implementation of roadway infrastructure and transportation services in southern New Castle County. Both are components of the WILMAPCO Regional Transportation Plan (RTP) which represents the County’s Transportation Element within its Comprehensive Development Plan.

The primary focus of this study is regional travel; however, the recent US 301 EIS includes several major employment centers in southern New Castle County near areas of residential population in anticipation of reducing the distance of commuter traffic. Subsequently, there is now a concerted effort to evaluate the condition and needs of the collector and local roads in southern New Castle County. Nearly half of this region south of the C&D Canal is zoned Suburban (S) exclusive of incorporated areas. Most if not all of the roads on this system are below AASHTO and DelDOT standards. Much of the development proposed in the County is located along these substandard roads.

The New Castle County Department of Land Use, in conjunction with DelDOT and WILMAPCO, completed a Circulation Plan. The purpose of the circulation plan is twofold:

1. Determine the necessary transportation infrastructure improvements to support 20 years of growth, and
2. Identify means for developers or other private sources to pay their fair share of the costs of the planned improvements.
This effort is consistent with the implementation of Article 21 Section 40.21.111 of the UDC. In order to minimize vehicular access points on arterial and collector roads, the Department of Land Use and DelDOT can develop a Local Circulation Plan. The Plan shall identify desired collector or residential collectors within a superblock, areas for frontage-type roads or reverse frontage, and preferred intersection locations. The Plan shall be based on property maps, zoning, and topographic and alignment information. All landowners shall conform to this Plan in order to obtain subdivision approval.

The Southern New Castle County Circulation Plan provides a comprehensive guide for safe and efficient infrastructure that complements the previous plans developed for regional traffic.

As described in Part 1, much of the existing road network in Southern New Castle County is substandard both in terms of safety and construction. Many of the existing roads were constructed from rural farm roads by simply adding hot asphalt mix to the existing farm roads without first laying a crushed-stone base. The emerging challenge is how to retrofit existing roads in Southern New Castle County for safety and design without destroying their rural and scenic character. Among other things, “traffic calming” roadway design measures may be one way to reduce vehicle speeds and restore a more rural perception of the area in the minds of motorists and pedestrians.

2.4 Sewer and Water Infrastructure

2.4.1 Sewer Infrastructure
The Department of Special Services is responsible for the planning, administration, operation and maintenance of the County’s sewer pipes, pump stations and wastewater treatment and disposal plants.

South of the C & D Canal, the Sewer Service Area is comprised of five areas, one of which is not presently served by any existing sewer infrastructure. The other four have operational sewer treatment and disposal facilities; one privately owned, one in the Town of Middletown and two controlled by New Castle County. The only privately run sewer system in the county is the “spray irrigation facility” within the residential subdivision of Lea Eara Farms serving 279 homes south of the C & D Canal east of Route 896/301. Middletown has its own sewer treatment plant although some Middletown properties utilize the county’s service. A relatively small wastewater treatment facility is operated by New Castle County in the Port Penn area with the treated water disposed of into the Delaware River. The largest existing county-owned system in Southern New Castle County is Water Farm 1, east of Odessa. This facility receives the untreated effluent from customers in an area geographically located north and east of Middletown, treats it in a series of storage lagoons, then either sprays it onto farm fields for hay crop production or discharges to the Appoquinimink River. This plant is currently treating and disposing of approximately 400,000 gallons per day with a capacity of approximately 1.8 million gallons per day. The County is also constructing Water Farm 2, north of Middletown,
The Southern New Castle County Scenic River and Highway Study

which may potentially treat a portion of the wastewater coming from the central core of the service area described above.

Although the County is committed to serving the Southern Sewer Service Area, only those areas east of Middletown are currently budgeted for additional capacity though the Capital Budget. The County also uses a Capital Recovery Fee collected from new customers in order to minimize the financial impact of sewer expansions on existing customers. Currently the County is developing a definitive strategy and policy for the provision of sanitary sewer services within the entire Sewer Service Area. A March 2006 Council Resolution commits the County to finding both short and long-term solutions to sewer needs in Southern New Castle County and efforts are well underway.

With regards to greater efficiency, the County is pursuing an Inflow and Infiltration (I & I) elimination program often associated with older pipes that have breakages and permit seepage of groundwater into sewer lines.

From the standpoint of environmental protection, the County initiated some years ago a Septic Elimination Program to assist communities with high percentages of failing septic systems to connect to the public sewers. While undertaking this type of program throughout Southern New Castle County as a whole would be prohibitively expensive, the County targets and prioritizes communities with failing systems. For example, if 70% of the residents of a subdivision desire to convert from utilizing their existing septic systems in favor of connection to the public system, typically due to numerous septic failures, the County considers undertaking a septic elimination program in areas where sewer service is feasible. Abandoning failing septic systems is an obvious improvement to the environment and to the quality of life of the affected residents.

2.4.2 Water Infrastructure
In Delaware, several agencies, organizations and companies are involved in regulating and providing water service. The Water Supply Coordinating Council (WSCC) is charged with developing new water supplies in New Castle County and working cooperatively to manage water supplies more efficiently. The Delaware Geological Survey (DGC), the Department of Natural Resources and Environmental Control (DNREC) and the State Water Coordinator serve as advisors to the WSCC.

Water utilities are subject to regulation by the Delaware Public Service Commission. Most aspects of water distribution, including rates, are regulated by the Delaware Public Service Commission (PSC). The PSC also is charged with granting Certificates of Public Convenience and Necessity as appropriate when water utilities wish to expand their service territory.

DNREC’s Water Supply Section is charged with managing and issuing well construction and use permits for wells withdrawing 50,000 gallons per day (gpd) or less and with permitting water withdrawals of over 50,000 gpd. Withdrawals of over 100,000 gpd or more within the jurisdictional area of the Delaware River Basin Commission (DRBC)
must also receive approval from the DRBC. In addition, the Water Supply Section conducts long-term water supply planning, water conservation efforts and coordinates with other organizations in these pursuits.

The Division of Public Health is responsible for regulating the quality and safety of Delaware’s drinking water. The State Fire Marshal’s Office is charged with ensuring that there is adequate flow and pressure for fire fighting. Finally, the Water Resources Agency at the University of Delaware provides technical assistance for water resources and watershed policy to those governments and other entities involved in water-related issues. New Castle County assists these other agencies through various land use regulations, Building Code requirements, and staff participation on committees and working groups.

In New Castle County as a whole, 75% of drinking water is obtained from surface water sources and 25% from groundwater. The many uses of water are similar throughout the county regardless of geographic location, although Southern New Castle County uses significantly more water for agricultural irrigation. Also important to consider is the fact that all water in Southern New Castle County is drawn from public and private wells.

The “Delaware Water Supply Coordinating Council” (WSCC) issued a detailed report to the Governor and the General Assembly describing the water supply and demand projections for Southern New Castle County (dated June 30, 2006). This report concludes that water supplies will be sufficient to serve the increasing demand at least through 2030 based on conservative projections. This anticipates a reduction in agricultural irrigation needs with an increase in use by the growing population. Since all of the water supply is derived from underground sources, the total amount of available groundwater is not accurately known but estimated to be 20 to 30 million gallons per day.

Monitoring by the Delaware Geological Survey several years ago and a report issued by the Army Corps of Engineers this year raise potential concerns regarding groundwater quality and quantity, respectively, in New Castle County. What, if any, actions are desirable in the future are being discussed among the agencies referenced herein.

2.4.3 Stormwater Management
New Castle County is responsible for ensuring that all land development plans and their associated stormwater management concepts and practices comply with the Environmental Protection Agency’s (EPA’s) Clean Water Act, the State of Delaware Sediment & Stormwater Regulations, and the New Castle County Code. The county also verifies that completed development remains in compliance with these regulations by means of construction and post-construction inspections. In addition, New Castle County performs select maintenance to keep major streams open and free flowing.

The State Department of Natural Resources and Environmental Control (DNREC) and the EPA have delegated the New Castle County Departments of Special Services and Land Use with the responsibility to review Sediment and Stormwater Plans, conduct site
work inspections to monitor and enforce the implementation of the practices detailed on
the plans and to perform routine, long term inspections to ensure those practices continue
to function as designed.

Most statewide and local stormwater management regulations traditionally focused on
regulating new development. However, many stormwater runoff problems within New
Castle County are associated with existing older developments that were built prior to the
adoption of stormwater management regulations. In addition, there is a growing
awareness that other land use activities such as row crop agriculture can also contribute to
both water quality degradation and increased flooding. Awareness of these issues and the
requirements of the Clean Water Act, particularly TMDLs, have prompted the County to
explore methods for addressing stormwater quality and quantity controls in areas subject
to new development. Comprehensive and integrated processes are important components
of this effort.

Past growth in New Castle County and surrounding areas has resulted in increased runoff
that has had a detrimental impact on private properties and natural resources in terms of
flooding, stream degradation and water pollution. Stormwater management does not fall
under any one agency’s area of responsibility – in one way or another New Castle
County, the New Castle Conservation District, DNREC, DelDOT, the Delaware
Geological Survey (DGS) and the WRA all have responsibilities with respect to one or
more component. In addition, community maintenance associations and tax ditch districts
also handle components of stormwater management.

Past practices of controlling stormwater via rate of flow with no regard for volume of
flow have helped to contribute to increased runoff. Today’s techniques focus more on
volume control, resulting in less water running off a site compared to previous
stormwater management techniques. Incorporating these methods requires a systematic
approach to stormwater management, rather than piecemeal projects and facilities.
Among the issues the County is exploring are watershed-based stormwater management
concepts that evaluate stormwater conveyance limitations within watersheds, increased
use of “green” technology best management practices (which naturally filter stormwater
runoff and enhance on-site infiltration to minimize the volume of stormwater runoff and
reduce pollution in area waterways), and methods by which to ensure proper management
and maintenance of stormwater facilities over time. The County intends to better manage
stormwater through development of a new water management code, the potential
implementation of a stormwater utility, and by continuing to assist community
maintenance associations with understanding their stormwater maintenance obligations,
participating in partnerships with the New Castle Conservation District for flood
mitigation initiatives, and working with the DNREC, EPA, and other partners to ensure
that Total Maximum Daily Loads are adequately addressed in the revisions to the
County’s Municipal Storm Sewer Systems permit.
2.5 Inter-Agency Cooperation

Numerous individuals, agencies, organizations, and governing bodies exercise some degree of control, formal or otherwise, over Southern New Castle County, many of which have been referenced herein and share responsibilities for the protection of resources or the provision of services. In fact, throughout this study the global theme that repeats itself is the need for cooperation among state, county and local agencies and landowners.

From the standpoint of managing land use in Southern New Castle County, state legislation provide several tools that transcend jurisdictional boundaries, most critical of which is the PLUS (Preliminary Land Use Service) Process. The PLUS Process involves reviews by applicable State agencies at the initiation of the major land development process. New Castle County has a Memorandum of Understanding (MOU) with the Office of State Planning Coordination that requires significant zoning changes be submitted to the Office of State Planning Coordination and scheduled for hearing at monthly PLUS meetings. These meetings provide a mechanism for applicants with land development proposals to meet with State agency representatives to discuss issues and opportunities relating to potential regional or area impacts of development and the integration of state and local development plans. Such efforts bring state agency staff together with developers and local officials early in the land development process.

In addition, the Unified Development Code provides several avenues for land use coordination, among them provisions that major land developments, code amendments, and rezonings be reviewed by a Technical Advisory Committee (TAC) and that environmentally-sensitive projects be reviewed by a Resource Protection Area Technical Advisory Committee (RPATAC). Both of these groups are comprised of state and county representatives, business interests, individuals, and environmental groups.

Two other essential areas of coordination involve state, county and local governments. The first area of coordination involves the efficient use of infrastructure. The county and the state share responsibilities for infrastructure and the state has developed State Spending Strategies that have been coordinated with County efforts to help establish growth areas and advance cooperative investitures of services and funds. Given the limited finances available for transportation improvements and the number of projects targeted as necessary or desirable, the county must work much more closely with DelDOT and WILMAPCO in establishing priorities for improvements.

The second area of coordination is that of considering growth of the County and growth in the cities and towns as associated processes, not mutually exclusive efforts. Growth in towns and growth in other county areas should provide for transitions from one to the other and reflect the mutual needs for services and infrastructure. This impacts transportation priorities, water management practices, annexation decisions, sewer service areas, and, important to this study, resource preservation objectives. Communicating and coordinating policies and goals will result in more vibrant communities, whether in the unincorporated area or within town limits.
In recent months the New Castle County Executive’s Office has initiated a series of periodic coordination meetings with municipalities. These meetings have been formatted as regional issues’ forums dealing with such topics as economic development, emergency management, and storm water management. Coordination among these groups on the issues raised in this study will be germane for future meetings. A partial outgrowth of this process was the initiation of a Southern New Castle County joint study to explore issues of common interest.
PART 3

Priorities for Resource Protection
Introduction

Part 1 of this study contains comprehensive inventories of the historic, scenic and natural resources of Southern New Castle County. The result constitutes a resource base that should be considered for almost any decision regarding the future use of land in this part of the County. Only with a clear understanding of these resources – their location and characteristics – can the potential impacts from land use changes be assessed.

In order to fulfill the purpose of this study, however, it is necessary to connect the universe of resources to a protection strategy that has the greatest prospect of effectiveness. This in turn requires an analysis of where the resources fall in relation to each other, to areas already developed, to locations where resource protection has already been achieved, and to portions of the study area where future development is anticipated. This refinement is the purpose of this part of the study and results in a proposed set of resources considered first priorities for protection. It is these resources, in turn, that are the targets for the protection mechanisms described in Part 4.

In the first section of Part 1, the existing man-made conditions in Southern New Castle County have been described as the context for viewing the resource base; the current patterns of land use, location of and availability of infrastructure, and County growth management policies all of which have a bearing on existing and future patterns of growth. At the gross scale, the picture that emerges is that of transitional growth within various sewer service sub-areas north and east of Middletown and in areas surrounding Townsend and Smyrna (and Middletown) that the municipalities consider prime for annexation. And while this offers some basis for where to focus the efforts of this study, other factors must also be considered, among them: the type of resources to be protected, the ability to protect them during the development process, the desire to interconnect resources throughout the study area, and the need to reduce or prevent disturbance to some areas altogether.

The type of resources and the methods by which to protect them can vary substantially in the study area; for example, the approach taken to protect a stream corridor generally will differ significantly from that used to protect an historic building. On the other hand, Southern New Castle County contains many areas where a convergence of mutually-enhancing resources occurs and areas where sensitive development patterns can assist in interconnecting preserved and developed lands and resources. Such areas of concentration and convergence become an important focal point for protection strategies.

In some cases, the developed nature of an area may make any notion of resource protection essentially unattainable; this may be the case in areas historically developed prior to the County’s Unified Development Code. Even in these areas, this study provides opportunities to transition from existing developed areas to other areas providing higher levels of protection.

One other key determinant of priority within a protection strategy is the degree of protection already afforded a resource. While various levels of protection exist, from
regulatory protection to public ownership, the focus of this study is on ownership patterns (or the existence of conservation or agricultural easements) as the basis for graphically depicting protected and non-protected lands. Lands already protected due to ownership or easements need little additional protection measures for the foreseeable future; on the other hand, lands not protected in this manner clearly can be prioritized for future protective actions.

Thus, while the distinction between the growth areas north and east of Middletown and the rest of Southern New Castle County offers a general picture of protection targets, a more finite evaluation provides a basis upon which to prioritize protection and maximize efforts. To arrive at these priorities, the following steps were taken:

- The resource inventories were refined to depict those of greatest significance to Southern New Castle County;
- A composite of the refined inventories was made to illustrate relationships and areas of overlap or “concentration”;
- Developed land and land protected through ownership or easement were identified to show areas that have some level of resource protection; and
- A network of identified scenic roads was added as an additional resource category worthy of attention and protection.

The outcome of this process is a proposed set of targeted resources in need of protection through the combined public and private efforts described in Part 4.

### 3.1 Refinements to the Resource Inventories

The historic, scenic and natural resource inventories described in Part 1 are a reasonably comprehensive catalogue of the resources existing today in Southern New Castle County. The description of historic resources is drawn from the State of Delaware’s Cultural Resource Survey ( CRS) and further refined and field-inventoried. The scenic resources were field-inventoried, mapped and further refined. Information on natural resources was derived from a variety of sources, including state and county data sets and past inventories, as well as federal information available during the planning period.

As noted herein, the wealth of information on Southern New Castle County compiled herein is itself an important outcome of this study. Of further importance is the refinement of these resource inventories intended to provide appropriate targets for future public and private preservation efforts and public attention. This section encompasses the process intended to help target first priority resources for protection.

#### 3.1.1 Historic Resources

Given the number of resources in the study area, this survey focused resources relating to “scenic highways” and views. Survey results for historic resources can be reviewed in
relationship to those views. Criteria and locations for scenic roadways and viewsheds are outlined in another portion of this report. Evaluating resources based on mapping prepared for the scenic inventory provided results in four categories:

1. Resources that are currently standing and exist within scenic viewsheds. (Standing/Scenic)
2. Resources that are standing but do not fall within scenic viewsheds. (Standing/Not Scenic)
3. Resources that are not standing but whose original locations fall within scenic viewsheds. (Not Standing/Scenic)
4. Resources that are not standing and whose original locations do not fall within scenic viewsheds. (Not Standing/Not Scenic)

When overlaying these results with the National Register listing and concentrations of locations in varying hundreds in the county, it is possible to construct a matrix of criteria that prioritizes historic resources for active research and protection as follows.

1. **Standing / Scenic**
   There are 140 properties that fall within this category in the study area. Twenty-seven of these are listed on the National Register and 97 are eligible or potentially eligible. They are fairly evenly distributed across three of the four hundreds included in the study area with 47 in St. Georges, 40 in Appoquinimink, and 52 in Blackbird. The 92 potentially eligible sites in this category should be identified as high priority for further documentation and research to help protect the historical aspects of the scenic viewsheds in this area. Descriptions of the standing properties falling within designated scenic views appear in Appendix 2 of this report. Table 3 shows the standing properties listed in the National Register of Historic Places that fall within scenic viewsheds.

2. **Standing / Not Scenic**
   There are 223 properties in this category. Thirty-seven are listed on the National Register and 158 are eligible or potentially eligible. The 138 potentially eligible sites in this category, while lower in priority to maintaining identified scenic viewsheds, still contribute to the overall character and context of this portion of the country. These sites should become part of additional research on resources in this area.

3. **Not Standing / Scenic**
   One-hundred forty-four properties fall within this category, one of which is listed in the National Register of Historic Places. Distribution of these among the top three hundreds is 27 in St Georges, 75 in Appoquinimink, and 42 in Blackbird Hundred. Information about the demolished properties that fell within designated scenic views appears in Appendix 3 of this report.

4. **Not Standing / Not Scenic**
   Four-hundred sixty-three properties are included in this category. Many of these are archaeological sites and many occur along inland waterways and around the
rights-of-way along Route 13 and SR1. Of these properties, 108 are located in St. Georges Hundred, 203 in Appoquinimink Hundred, and 147 in Blackbird Hundred.

Table 3: Properties Listed in the National Register That are Standing and Fall Within Scenic Viewsheds

<table>
<thead>
<tr>
<th>CRS Number</th>
<th>Property Name</th>
<th>Hundred</th>
</tr>
</thead>
<tbody>
<tr>
<td>N 106</td>
<td>The Maples</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 107</td>
<td>S. Holten House</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 109</td>
<td>Rhodes House</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 115</td>
<td>J. Shallcross House</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 116</td>
<td>Sereck Shaleross</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 122</td>
<td>Noxon House Mill</td>
<td>Appoquinimink</td>
</tr>
<tr>
<td>N 135</td>
<td>Old Brick Store</td>
<td>Blackbird</td>
</tr>
<tr>
<td>N 150</td>
<td>Augustine Beach Hotel</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 152</td>
<td>Hart House</td>
<td>Blackbird</td>
</tr>
<tr>
<td>N 153</td>
<td>Fleming</td>
<td>Blackbird</td>
</tr>
<tr>
<td>N 214</td>
<td>Fairview</td>
<td>Appoquinimink</td>
</tr>
<tr>
<td>N 419</td>
<td>Huguenot House</td>
<td>Appoquinimink</td>
</tr>
<tr>
<td>N 570</td>
<td>Clearfield Farm</td>
<td>Blackbird</td>
</tr>
<tr>
<td>N 3888</td>
<td>Ashton House</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 3930</td>
<td>Achmester</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 3939</td>
<td>J. B. Nelson</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 3944</td>
<td>Cleaver House</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 4247</td>
<td>Johnson Home Farm</td>
<td>Blackbird</td>
</tr>
<tr>
<td>N 5120</td>
<td>Reedy Island</td>
<td>Blackbird</td>
</tr>
<tr>
<td>N 5135</td>
<td>Okolona (Cochran)</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 5148</td>
<td>Rosedale (Murphy)</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 5176</td>
<td>J. M. Gordon</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 5177</td>
<td>Vandergrift</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 5198</td>
<td>T. J. Craven House</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 5211</td>
<td>A. M. Vail</td>
<td>St. Georges</td>
</tr>
<tr>
<td>N 5891</td>
<td>Van Dyke</td>
<td>Appoquinimink</td>
</tr>
<tr>
<td>N 5898</td>
<td>Hill Island Farm</td>
<td>Appoquinimink</td>
</tr>
<tr>
<td>N 12738</td>
<td>Windsor</td>
<td>St. Georges</td>
</tr>
</tbody>
</table>
As presented in the previous section of this report, refinement of the historic resource survey includes a base group of 969 individual resources listed within the study area. A group of 324 standing resources has been identified as having the significance to be listed in the National Register of Historic Places or having potential significance under the criteria utilized for inclusion in the National Register. This smaller group is broken down into the following classifications:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed in the National Register</td>
<td>68</td>
</tr>
<tr>
<td>Officially Determined as Eligible</td>
<td>1</td>
</tr>
<tr>
<td>Eligible based on published studies</td>
<td>25</td>
</tr>
<tr>
<td>Potentially eligible requiring further study</td>
<td>230</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>324</strong></td>
</tr>
</tbody>
</table>

Although these historic resources are well distributed across the study area, there is a high concentration of resources on the western side of Route 13/SR1. This area, which includes the towns of Middletown and Townsend, is currently experiencing a great deal of residential development pressure. County plans for new utilities, such as the comprehensive sewer planning currently underway, also places historic resources at risk due to the potential for future development pressures.

As outlined in Part 1, the majority of the historic resources in this part of the County are agricultural in theme and include outbuildings and cultivated fields as part of their contexts. Protection of those contexts becomes important as pressures for buildable land increases. Many resources have already been lost, and further survey and documentation is needed in these areas so that significant resources continue to be identified and protected.

### 3.1.2 Scenic Resources

The inventory of scenic resources is presented in Part 1 and includes mapping and supplemental appendices that identify visual accents, intrusions and scenic vistas.

The methodology for determining scenic quality is based on a division of the study area into landscape categories (ranging from watercourses and wetlands to village settlements and suburbs) and elements that relate to the landscape’s life supporting capacity (such as vegetation or wildlife habitat). In addition, areas deemed scenic must be within view of the general public, that is, visible from public roads.

Further refinements to this inventory, most of which occurred in the northern portion of the study area, involved deleting areas originally surveyed for inclusion that have since undergone or are scheduled to undergo development. For the sake of this study effort, land for which approved plans exist are considered to be developed because such land will be substantially altered and it is unknown whether the scenic resources identified during the field inventory will be protected or not.
Given the land development patterns in the study area, it is not startling that the land and water north of Middletown is considered less scenic than areas east and south of Middletown.

### 3.1.3 Natural Resources

The natural resources inventory contained in Part 1 consists of mapping and text of the following resource site classes: physiography, geology, soils, steep slopes, surface water (hydrology, floodplains, riparian buffer areas), ground water, water resource protection areas, wetlands, forests/vegetation, critical natural areas, and State Resource Areas.

As with scenic resources, a comparison of the developed land/pending developed land mapping with the natural resources mapping indicates that development now occupies locations that appear as natural resources. While the County’s UDC requires that development be placed on the land with respect for the natural environment, these features will be accorded a lesser priority as protection targets for future preservation efforts. Furthermore, as with historic resources, additional emphasis will be placed on those natural resources found within the scenic viewsheds identified for this study.

### 3.2 Composite of Significant Resources

One basis for deciding where to target protection efforts is to identify how various resources relate to each other and where they converge or even coexist. For example, are there areas where historic structures sit in scenic settings? Does an important natural area embody its own scenic qualities?

To examine these issues across the entire study area, the refined resource inventories, such as they are, were combined and overlain to form the composite map of historic scenic and natural resources (see Figure 8). The mosaic represented in this figure is an initial cut at the study area’s resource base that demands additional attention. Within that mosaic, the points of resource concentration are highlighted by blending of colors and/or patterns.
Development / Ownership Status

Legends:
- Municipalities
- Devoted Land
- Committed to Development
- Private Open Space
- Conservation Land
- Public Parkland
- Other County-owned land
- Other State-owned land
- Suehaw Valley
- Uncommitted Private Land

Source: New Castle County Department of Land Use
3.3 Committed and Protected Lands

The composite of resources mapped in Figure 8 indicates the maximum area in need of future resource protection within Southern New Castle County. And while lands developed or committed have been considered in the resource refinements discussed above, land protected through ownership or easement has not been discounted. Land considered well-protected allows future protection strategies to be focused elsewhere. As such, Figure 9 identifies ownership status of land in Southern New Castle County; land considered well-protected in this regard are those in public ownership (either for recreation or other institutional purposes), land held in permanent agricultural easements, or land held in conservation easements.

It must be remembered that the mapping of uncommitted lands includes both residential and non-residential developed lands, lands undergoing development, and lands with approved plans.

Comparing the mapping for uncommitted lands (Figure 2), ownership status (Figure 9), and the resource inventories (Figures 5, 6, and 7), permits the “filtering out” of those properties that, because of their committed or protected status, should not be part of the 1st priority group. In effect, they can be “netted-out” of the protection strategies, thereby focusing attention elsewhere. Often that focus falls on resources immediately adjacent to properties already defined as protected; the successful protection of these resources can then extend and enhance the security established on eased or publicly-owned lands.

3.4 The Scenic Road Network

The methodology used to designate scenic roads in this study is consistent with that used in prior scenic river and highway studies. Although new approaches to scenic road designation have evolved in recent years, none vastly differ from the technique originally developed for New Castle County. In fact, the most significant changes to come about in recent years have been in the number and types of state and federal programs developed to recognize and fund scenic road designations. Further discussion of these programs takes place in Part 4.

Scenic roads are defined to include roads possessing a high degree of natural beauty and historic or cultural value. The basis for scenic road designation in this report lies in the criteria established in the Federal Highway Administration publication, Scenic Byways. These criteria, modified to reflect the unique physiographic and historic components of southern New Castle County, became the first level of analysis used to identify scenic roads during field investigations.

A second level of analysis involves using the modified criteria to compare the scenic, historic, and natural resource inventory mapping prepared in Part 1 to each road preliminarily identified in the field. This exercise helped further refine the characteristics
of each road and permitted a determination of the amount of scenic value each road possesses. Furthermore, this step helps in identifying the positive and negative attributes of each road and how such attributes contribute to or detract from the scenic quality of each road.

The result of this process, as depicted in Figure 6, is a roster of 43 roads or portions of roads that are considered worthy of scenic road designation (see Appendix 4 for a full description of the attributes of each road). The qualities that make these roads integral to the scenic fabric of southern New Castle County are described in Section 1.3. Each road possesses qualities worth protecting and is a characteristic resource of the study area. Together, they serve as a means of public enjoyment of southern New Castle County.

Parts 2 and 4 of this report describe different approaches to instituting a scenic roads program in southern New Castle County. Regulations currently in the County’s Unified Development Code, Article 4, Section 40.04.240 (Scenic Corridors), aim to protect scenic resources by establishing corridor widths (development setbacks) and landscaping requirements. Any formal designation of scenic roads, however, will ultimately depend on the nomination of scenic corridors through the State of Delaware’s Scenic and Historic Highway Program, administered by the Delaware Department of Transportation (DELDOT). Several of the scenic roads identified in this study lend themselves to nomination under the state’s program and should be considered for such by interested individuals and organizations.

### 3.5 First-Priority Resource Protection Targets

The components of this planning process - the resource inventories, the assessment of land use and infrastructure, the depiction of developed and committed lands, and the assessment of land ownership – all form the basis for prioritizing the resources of highest priority for protection. In the previous sections of Part 3, a methodology is employed that refines the original resource inventories and selects from among them the particular areas of priority. In a sense, the process can simply be described as a merging of Figures 5, 6, and 7 in light of land ownership patterns. The results are described in this section and illustrated on Figure 10.

The resource base can be best identified in terms of several components. These include:

- The major streams and tributaries of Southern New Castle County;
- The network of scenic roads described above and detailed in Appendix;
- The composite of historic, scenic and natural resources.

In order to arrive at a graphic illustration of the first-priority resources for protection, an understanding of land ownership and development patterns is necessary. For example, where a significant resource area coincides with an area already developed, the resource area is no longer considered a protection priority. With regards to land ownership, public
lands and eased lands are delineated in order to distinguish them from developed lands, and to reaffirm the protection they bring to the resources on those properties.

With respect to scenic roads, the evaluation reflects an actual field inventory within which an evaluation took account of both committed and uncommitted land areas and assessed scenic quality according to a process further defined in Appendix 4.

The fundamental priority of this process is to retain the existing integrity of Southern New Castle County, as embodied by the resources identified herein. While this process does not result in an explicit list of tax parcels or property owners (something nevertheless obtainable in the future), it does yield, in graphic form, an objective statement of the resources in need of protection.

Part 4 offers suggested implementation measures by which to achieve such protection.
PART 4

Achieving Resource Protection Objectives
Introduction

The majority of Southern New Castle County’s resources exist in low-lying, grassy fields, meandering streams, wetlands, and forests. While topographic relief can often hide visual intrusions which mar an otherwise pastoral landscape, Southern New Castle County’s lack of topography presents design challenges for achieving development that is compatible with the character of the surrounding natural and built environments.

Preserving the rural and scenic character of Southern New Castle County is one of the greatest challenges facing the County as a whole. The key to maintaining and preserving quality of life and scenic beauty is to manage the relationship of the built environment to the natural environment. Part 4 describes appropriate and potentially effective techniques for better managing the landscape and protecting the resources identified in Part 3. These techniques, both public and private, often overlap one another because of the efforts required of various agencies and organizations.

The emphasis here is on the actions and processes that can be coordinated through or implemented directly by New Castle County. Where a technique is more properly the responsibility of another party, it is suggested that the County, primarily through its Department of Land Use, perform a coordinating and monitoring function in the future. Fundamentally, however, meaningful protection will depend on the County’s willingness and desire to act as the catalyst for action.

4.1 Public Regulation and Site Planning Techniques

The County’s clear land use authority under state law, coupled with its delegated police power authority, permits it to protect defined resources through its regulatory processes. The Unified Development Code (UDC) is an example of codes and ordinances that are employed toward this end; limits on disturbance to identified resources are and can be imposed through the administration of this Code.

As complements to its own regulatory framework, the County can rely on other governmental agencies, and the procedures they administer, to help protect selected resources. Examples include the Army Corps of Engineers, responsible for many types of wetland permits under Section 404 of the Clean Water Act and other laws; Delaware’s Department of Natural Resources and Environmental Control (DNREC), through which state-regulated wetlands are protected; and DNREC’s Office of Nature Preserves, charged with administering the Natural Areas and State Resource Areas programs.

Given the extent to which an existing framework exists to protect resources, as well as the extent to which the County currently does protect resources, future protection efforts are more an issue of refinement and extension where necessary and appropriate. Currently the County provides some level of protection to the scenic, historic and natural resources inventoried in this study. Recent years have seen significant progress towards
the protection of natural resources, in particular, and the UDC contains several provisions for the protection of scenic roads and historic resources. Recent completion of the County’s 2007 Comprehensive Land Use Plan Update identifies those areas for which public infrastructure investments are intended to be made in order to provide needed services, encourage appropriate development and manage growth. In terms of compatibility with the need for resource protection, the current largely residential pattern of zoning in Southern New Castle County, in particular Suburban (S) and Suburban Reserve (SR), is appropriate. Relatively low and moderate density zoning, with options for site design flexibility pursuant to the open space design options, enables each tract to be treated in relation to its particular characteristics. This flexibility will be increasingly important in the future if resource protection objectives are to be met.

Other regulatory concepts or techniques of potential merit for the protection of resources in the study area include:

1. Continue the implementation measures identified in the County’s 2007 Comprehensive Land Use Plan Update, including targeting growth to areas with sufficient infrastructure, expanding the use of TDR as a preservation tool, and expanding protection for young forests;

2. Complete the Southern New Castle County Master Plan and incorporate it findings and the findings of this study into implementation strategies pursuant to the County’s overall comprehensive planning policies;

3. Explore alternatives to fee-simple purchase strategies designed to protect land, including purchase of development rights, tax abatement strategies, impact fees and donations;

4. Institute a mapping component for subdivision/land development plan submissions (including resource inventories) and require all information be submitted to the County in a digital format consistent with the County’s GIS system. Maintain a spatial data set that tracks development impacts and maps site-specific resource site classes;

5. Recognize the importance of biodiversity conservation and identify protection strategies. Continue to promote biodiversity education through County publications and periodicals. Continue to expand the definition of critical natural areas to further recognize and protect natural areas. Consider a process to define and designate such protected areas on Record Plan submissions;

6. In the Coastal Plain, discourage the practice of channelizing runoff; consider basin-wide drainage studies, which can be used to guide development in an appropriate fashion;
7. Continue to monitor the effectiveness of the County’s Water Resource Protection Area standards and modify them as needed to achieve the best levels of protection;

8. Continue growth management and preservation activities aimed at preserving land outside the Southern New Castle County Sewer Service Area (as described elsewhere herein); in particular, develop preservation strategies that can preserve portions of the Levels, areas around the Blackbird State Forest, and the Inland Bays. Consider modifying the TDR standards in the UDC to better accomplish these objectives;

9. Consider creating scenic road overlay regulations (setbacks, buffering, resource protection, use provisions, building placement, etc.) that expand on Article 4, Section 40.04.240 (Scenic Corridors) and consider amending Article 20, Subdivision and Land Development Design Principles, Section 110 to include a requirement that subdivision/land development design and layout preserve the significant vistas identified in this report through the protection of scenic accents and vistas and the screening or elimination of intrusions; and

10. Consider higher protection ratios for those natural resources within the scenic road corridors (such as trees and other indigenous vegetation).

4.2 Public Purchase and Private Land Stewardship Options

4.2.1 Public Purchase
Through this and subsequent planning processes, the County may identify a variety of resources it seeks to protect by means of acquisition. As first priorities for protection; purchase of such sensitive natural, scenic or historic resources could be in the form of scenic road easements, trail easements, facade easements, wastewater reclamation and/or stormwater recharge easements (in combination, perhaps, with parkland), purchase or acceptance of development rights (PDR), and fee-simple purchase, to name a few.

Currently, potential sources of funding include:

1. Federal Transportation Enhancement Funds (the Intermodal Surface Transportation Efficiency Act (ISTEA), as reauthorized by TEA-21 and SAFETEA-LU), administered by DelDOT;

2. Federal Highway Administration (FHWA) National Scenic Byways Program grants (grants are administered through DelDOT);

3. New Castle County's Community Planning Assistance Grant Program (currently inactive), in support of local planning and preservation initiatives;
4. The New Castle County and Delaware Agricultural Lands Preservation Foundation farmland preservation match program (as well as the independent programs also utilized by both government bodies for agricultural easement purchases) (currently, 17,481 acres on 75 farms are in Agricultural Preservation Districts, with an additional 879 acres pending. Agricultural easements have been obtained for 60 farms, for a total of 10,281 acres);

5. The various recreation and environmental resources grant programs administered by the Delaware Department of Natural Resources and Environmental Control and the Delaware Open Space Council, including funding programs for park development and acquisition of key Natural Areas and State Resource Area lands;

6. Community Development Block Grant (CDBG) program funds;

7. Real estate transfer tax revenues; and

8. Trust/foundation/institutional support (philanthropic support such as through the Welfare Foundation or Fair Play Foundation and institutional support such as through the DuPont Corporation or through Preservation Delaware’s Revolving Fund which is intended for historic resource preservation).

While the acquisition of key parcels or rights to key parcels offers perhaps the ultimate protection for resources, it also must be used judiciously due to the limited amount of funds available for such purposes. Counties that use acquisition in combination with other preservation techniques can get more for their money. For example, counties with limited funds may find they can achieve the greatest success by purchasing the development rights on several parcels, as opposed to purchasing a single tract. Another example would be to use easements to protect buffer areas around fee simple purchases (this may even be achievable through the County’s open space development options which require 50% open space set-aside and easement execution). Consideration should also be given to securing funds that can be used for several open space related purposes, such as using open space grant funds for spray irrigation and parkland.

Working with large landowners to develop preservation strategies also has the potential to pay dividends. For example, combining the purchase of options with voluntary preservation can save the County money and reduce the “windfall/wipeout” many landowners experience when they are assessed capital gains on the fee-simple sale of land. Counties that work with landowners to utilize the purchase of options in conjunction with other preservation techniques also stand a better chance of receiving limited funding.

Other than outside funding sources, which are limited and not guaranteed, there are essentially two ways to raise funds for open space acquisition: raising real estate taxes or issuing bonds. Although neither approach is particularly popular, a well conceived program which makes use of limited funds in combination with other preservation techniques (such as conservation easements) may have a reasonable chance of success.
In terms of reallocating existing revenues, some communities have found merit in dedicating at least a portion of the real estate transfer tax receipts to open space acquisition.

### 4.2.2 Private Land Stewardship Options

Many landowners find they develop strong attachments to their land. They spend years, sometimes through successive generations, planting, harvesting and recreating on the land. To these owners, land is something to be cared for and managed. They see themselves as stewards of the land and they develop a strong conservation ethic for its protection. Even so, many such landowners find that they must divest themselves of their land at some point in their lives. Whether they sell the land for development or donate it (or the right to develop it) to a conservation organization depends largely on the economic benefits or disadvantages of doing so. Often, the landowner is seeking some economic return from the land in exchange for preserving at least a portion of it.

Given current tax laws as reflected in land transactions, the issue is not what a landowner gets, but what he gets to keep. Selling to the highest bidder may seem attractive, but if capital gains taxes substantially reduce the amount you get to keep, are you better off? If a strategic sale and donation of land left you with more cash and lower taxes, wouldn't such a strategy make sense? The options described below can be used separately or in conjunction with the sale of land to realize individual landowner objectives.

Private land stewardship involves the donation of land or rights to the land to a qualified conservation organization and/or the County. The types of donations include:

1. Outright gifts of land,
2. Gifts of land with retained life estate,
3. Bargain sales of land,
4. Gifts by codicil, and
5. Conservation easements.

The primary incentives for the use of these techniques are federal income, gift, and estate tax reductions. For example, many landowners can qualify for a charitable contribution for the gift of a conservation easement. The appraised value of the easement may be deductible from the donor's gross income for federal income tax purposes, provided certain requirements are met. The gift of a conservation easement during a landowner’s lifetime, or by will, can reduce the appraised value of the land, thereby reducing the value of the estate for tax purposes. A donor of a conservation easement can minimize federal gift taxes associated with a gift of land to children or others provided an easement is in place prior to the transfer of land.

The tax incentives associated with these types of donations are likely to generate large, immediate financial benefits for the taxpayer; in general, however, they are irreversible. As such, private land stewardship actions require negotiation and rely heavily on the willingness and desire of a landowner to preserve sensitive natural features and/or open
space. Given the right set of circumstances, however, these mechanisms can go a long way toward preserving land otherwise destined for development.

**Gifts of fee-simple title in land, as well as fee gifts with retained life estates**, require a clear idea of the future use to be made of the land and a commitment of funds to be endowed for its maintenance (the latter can be a difficult goal to achieve). **Bargain sales** (where property is sold at below market value to a qualified charitable organization or municipal government and the seller claims a charitable gift for the uncompensated value) require up-front money as well as funds for maintenance. In areas where present or future public access or use is desired, these three approaches are extremely important.

A **codicil** is an appendix or supplement to an individual's will. This mechanism can be employed to implement an individual’s wish to make a fee simple or conservation easement gift after death but before distribution and taxation of the estate. Codicils, however, are not permanent and can be revoked at any time prior to death.

The **conservation easement** provides a way in which a property owner can participate in the long-term protection of valuable open space and natural resources. With this tool, the landowner (donor) establishes restrictions in perpetuity over the use of the property. The recipient (donee) agrees to monitor the eased areas to assure that the easement terms are upheld. Because the public benefits from the permanent preservation of important scenic, historic, and natural areas, the donor may qualify for certain federal income tax deductions on the basis that the donated easement is a charitable contribution. Since the landowner continues to own and manage the land, he also continues to pay appropriate taxes (though often reduced through use-value assessments).

The degree of protection varies with each easement and each site, as do the conditions set between the donor and donee. Generally, easements are designed to protect unique features, preclude development, and minimize disturbances on other eased lands. As such, those areas should be selected discretely and, where possible, be relatively contiguous with those lands already protected (by the County or others) or be part of those lands deemed important by the County. In general, easement donations providing for **public access** have been successfully negotiated only where access already existed to walking, hiking, or equestrian trails and some organization will relieve the landowner of insurance liability, maintenance, and safety and security concerns.

Conservation easements also can be a means to reinforce public land planning. Once an easement has been placed over the sensitive features on a tract, for example, any subsequent proposal for its development must abide by the terms of the easement, thereby protecting the sensitive features and facilitating the site design and review process.

Trade-offs frequently are made when a landowner wishes to develop all of his property, but the governing body wants to obtain or otherwise protect part of it. In such cases, the governing body may end up allowing for more intensive use (than zoned) of one part of the property in return for donation of the balance. When that process works in the reverse sequence, i.e., when someone voluntarily gives up far more than could ever be protected...
through regulation, it is suggested that he/she be accorded some degree of ongoing flexibility on the balance of the tract. This process, which involves a quid pro quo arrangement, could disqualify the tax deductibility of a proposed gift. As such, if the Township wishes to encourage charitable contributions by its citizens, it should be very careful not to initiate any action that could jeopardize the tax deductibility of the gift.

Another private land stewardship approach used by conservation organizations and land trusts is to work with landowners on **limited development** plans. Most large landowners are unprepared to give up all future building rights on their land; as a consequence, most easements on large parcels provide for some future limited development. Where it is clear that a landowner would like to give fee title or easements on portions of his land and develop other parts (e.g., in a less scenic or less environmentally sensitive area), the preparation of a limited development plan that addresses these dual objectives may be quite appropriate. In many cases, this approach has been essential in achieving a comprehensive conservation plan. In sum, landowners often derive better personal benefits, as well as **substantially** greater community benefits, by combining the limited development option with gifts of land or life estates and gifts of easements.

Other public purchase and private land stewardship preservation options include:

1. Develop a list of priority properties for protection and acquire key parcels as funds become available (this necessitates a thorough inventory of resources and a prioritization process involving all segments of the community);

2. Consider preservation partnerships with local environmental organizations that promote conservation easement donations and creative limited development plans;

3. Expand upon current conservation efforts to develop a full range of easement options for scenic corridor-related preservation, including historic house façade easements, scenic corridor easements, and voluntary landowner protection agreements. Prepare model easement language and landowner agreements consistent with this plan’s mission. (Note: corridor easements should be no less than 200 feet on each side, where feasible); and

4. Further examine funding options and their viability for Southern New Castle County, including the funding sources listed above, such as: Transportation Enhancement Funds which are available for the purchase of scenic corridor easements, the Delaware Open Space Council, the Delaware and New Castle County farmland preservation programs, and Preservation Delaware’s Revolving Fund which is intended for historic resource preservation.
4.3 Historic Resource Protection

It is apparent from the quantity of cultural resources in the survey area that there is strong historic context still standing in the southern part of New Castle County. Agricultural and transportation themes dating from the industrialization and early urbanization period of 1830 onward greatly contribute to the scenic character found in much of the study area.

As mentioned in previous sections, further survey and evaluation of sites should be undertaken to expand the list of resources to include those that occur in the earlier part of the twentieth century, as well as to update the information on resources from earlier periods. While development is necessary, intelligent protection of these resources and their contexts is crucial toward maintaining the character of the state in which we live. New Castle County has several tools in place that encourage the protection of historic resources.

Protection of historic resources begins with accurate documentation. Federal programs such as the National Register and the National Historic Landmark designations rely on adequate and accurate survey and documentary information. Once designated, owners of certain properties can become eligible for tax credits and benefits when considering rehabilitation or easements. State and local planning also rely on accurate and reliable documentation in order to make informed decisions on long range development plans for sensitive areas.

With agriculture as the dominant theme for the historic resources in this area, one program that could be very effective in encouraging further documentation, as well as providing protection for historic properties is the AgLands Project. Sponsored by the State Department of Agriculture, this program encourages individual farm owners to maintain the viability of their farmland by offering to purchase the development rights they would reap if they sold their property as building lots. The goal of the program is to preserve great tracts of contiguous farmland to maintain the agricultural context of the state. Individual participation in this program is voluntary and includes documentation and research on properties providing the potential for increased information on historic resources in the study area.

Programs involving the transfer of development rights (TDR) from private ownership to a public entity have been studied and adopted by the county (see the county’s Unified Development Code, sections 40.07.400 through 40.07.440). The Unified Development Code (UDC) allows for TDR for historic resources by compensating the maximum permitted development if the historic resource(s) is preserved or restored. County planners currently participate in the review of the farm land selected for the State-based AgLands program, but additional involvement on the county level could target certain farms for participation. Many properties within the historic resource category of highest priority, identified as Scenic/Standing, would be excellent candidates for TDRs, and additional interaction between state and county planning officials might increase the likelihood of those individual farm owners’ participation in the program. Structuring the program to operate on both state and county levels could improve its overall results by
preserving farmland as well as by providing protection and documentation for contexts and important historic resources.

Large-scale suburban tract housing utilizes the farmstead in a way that is unprecedented on the agricultural landscape. Large tracts of tilled or pastured land, dotted by clustered agricultural complexes lose their context, and often their integrity, when development occurs on or near the parcel. Development on the parcel almost always means the demolition of extant resources, obliterating forever the tangible pieces of the parcel’s history. Development of one large farm, adjacent to many others, may also adversely impact neighboring historic resources, and create a leapfrog effect of development; whereas, a traditionally rural landscape is broken intermittently by large tracts of single family dwellings, multiple use developments, or a nucleus of “big-box” stores. Controlled, directed growth within designated areas, coupled with state and local programs for the preservation of historic resources, may hinder the loss of the area’s valued historic assets that is rapidly occurring throughout the lower region of New Castle County.

The southern portion of New Castle County is the fastest growing area in the county and the historic resources located in this region are under extreme pressure. Due to rapid development occurring in the area, it is unclear if and how the historic resources in this vicinity will survive. Given the nature of suburban development, agricultural resources and the land that surrounds them are especially vulnerable to growth. Developing and utilizing measures that accurately gauge the value of and the stresses to the unique built environment of the lower portions of the county should be a priority for the county’s land use decisions.

4.4 Transportation Planning

Transportation planning has been ongoing in southern New Castle County since its advent in the 1960’s. Major corridor studies have resulted in several upgrades, widenings, and a new limited access highway SR 1. A number of studies were conducted for the US 301 corridor, namely an Environmental Investment Study, and more recently a Major Investment Study. A recent decision regarding this corridor will allow for land acquisition and final planning.

The primary focus of the 301 studies was regional travel; however, the latest US 301 Study includes several major employment centers in southern New Castle County near areas of residential population in anticipation of reducing the distance of commuter traffic. Subsequently, there was a concerted effort to evaluate the condition and needs of the collector and local roads in southern New Castle County. Nearly half of this region south of the C&D Canal is zoned Suburban (S) exclusive of incorporated areas. Most, if not all, of the roads on this system are below AASHTO and DelDOT standards. Much of the development proposed in the County is located along these substandard roads.
The Southern New Castle County Scenic River and Highway Study

The New Castle County Department of Land Use, in conjunction with DelDOT and WILMAPCO, have worked together to develop a long-range plan for circulation. The purpose of the effort was twofold:

1. Determine the necessary transportation infrastructure improvements to support 20 years of growth, and
2. Identify means for developers or other private sources to pay their fair share of the costs of the planned improvements.

This effort is in consistent with the implementation of Article 21 Section 40.21.111 of the UDC. In order to minimize vehicular access points on arterial and collector roads, the Department of Land Use and DelDOT can develop a Local Circulation Plan. The Plan identifies desired collector or residential collectors within a superblock, areas for frontage-type roads or reverse frontage, and preferred intersection locations. The Plan is based on property maps, zoning, and topographic and alignment information. All landowners will conform to this Plan in order to obtain subdivision approval.

Now that such planning is complete, it should provide a comprehensive guide for safe and efficient infrastructure that complements the previous plans developed for regional traffic.

Much of the existing road network in Southern New Castle County is substandard both in terms of safety and construction. Many of the existing roads were constructed from rural farm roads by simply adding hot asphalt mix to the existing farm roads without first laying a crushed-stone base. The emerging challenge is how to retrofit existing roads in Southern New Castle County for safety and design without destroying their rural and scenic character. Among other things, “traffic calming” roadway design measures may be one way to reduce vehicle speeds and restore a more rural perception of the area in the minds of motorists and pedestrians.

Additional transportation planning techniques to consider include:

1. Maintain narrow road widths, sharp curves, and nearby roadside features (rock outcrops, woodlands, etc.) as effective traffic calming devices. Maintenance of existing features that serve to calm traffic is preferable to any road modifications, particularly those that are uncharacteristic of the Byway.

2. Correlate the speed limit of roads and reduce speed limits as applicable to reflect roadway characteristics. Increase speed limit enforcement. Use signs instead of tree removal when sight distance is a problem (removing trees often encourages speeding, whether signs exist or not).

3. Where road improvements or significant maintenance is warranted, maintain the scenic integrity of the rural roadways within the Byway through the following:

   - Use context-sensitive design techniques when undertaking improvements.
• Consider, as needed, measures that assist drivers in recognizing those areas where caution must be exercised (tools such as bump outs or curb transitions, alternating plantings, shifts in alignment and “neck-downs” may be options to selectively consider).
• Maintain existing alignment and two lane cross sections of Byway roads (except where it is absolutely necessary to modify alignment for safety reasons).
• Undertake landscape management and site improvements as part of any road improvement project or significant maintenance project

4. Consider nominating those roads identified in this study as scenic for inclusion in the State of Delaware’s Scenic and Historic Highways program, administered by DelDOT. Portions of Route 9 identified in this study as scenic have been accepted into the state’s program; it is likely that other identified scenic corridors would also be eligible for state designation.

5. Continue working with the State of Delaware and local jurisdictions in helping implement WILMAPCO’s Interregional Transportation Study to identify regional transportation issues and to prioritize coordination and funding for solutions to those issues.

4.5 Coordination and Management Among Public Agencies

This report repeatedly points to the diversity of agencies and jurisdictions whose functions impact Southern New Castle County. Clearly, if the proposals of this study are to be accomplished, they must be made known to the various entities working in the study area and evaluated and monitored during the process of implementation. In this coordinating role, the Department of Land Use can and should play a central role. An example of this function can clearly be seen in the Southern New Castle County joint study which is currently ongoing.

Coordination and management activities that should be pursued include the following:

1. Coordinate state and other open space acquisition strategies with private purchase/donation initiatives (possibly linked to land development) to promote interconnected open space.

2. Initiate partnerships that can achieve the most preservation through shared funding strategies, including possible joint funding through the state’s Open Space Council and federal funds for transportation enhancement programs designed to conserve land and protect scenic corridors.
3. Continue to coordinate data collection and data exchange with public and private sector agencies, e.g., the University of Delaware’s Spatial Analysis Lab, State of Delaware GIS mapping, etc..

4. Continue participating in state and federal projects aimed at natural resource protection, open space set-aside, non-point source pollution, and habitat protection. For example, actively participate in programs aimed at developing Total Maximum Daily Loads (TMDL’s) for non-point source runoff.

5. Recommend Delaware Department of Natural Resources and Environmental Control DNREC hold periodic briefings to inform counties of new policies and recommendations pertaining to state and local environmental resources.

6. Work with others to strengthen or add a role for the Wilmington Area Planning Council (WILMAPCO) on issues dealing with the natural environment consistent with its agency coordination functions on transportation issues.

7. Foster better working relationships with state agencies, such as the Delaware Natural Heritage Program, that are capable of evaluating impacts to rare plant communities, habitat areas, etc.

8. Consider formal partnerships with local environmental organizations to better monitor development activities.

9. Respect and value roadside vegetation as a critical component of the scenic roads identified herein and partner with those who do work along roadways (DelDOT, utility companies, etc.) to better manage and understand the inherent value of vegetation to the scenic roads. For example, work with utility companies to minimize the impact of pruning roadside vegetation for overhead utility wires; consider training workshops that address vegetation preservation techniques, etc.

10. Continue discussions with the state regarding the results of recent litigation surrounding the identification and eventual preservation/protection of newly defined State Resource Areas (SRAs). Pooling and coordinating resources available to the state and county will help ensure that the maximum benefit is derived.
APPENDICES

Appendix 1 – Visual Accents, Vista Points and Visual Intrusions
Appendix 2 – Standing Properties in Designated Scenic Views
Appendix 3 – Demolished Properties in Designated Scenic Views
Appendix 4 – Scenic Roads in Southern New Castle County
Appendix 5 – Selected References
Appendix 1

Visual Accents, Vista Points and Visual Intrusions

<table>
<thead>
<tr>
<th>Visual Accents</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Historic Tower (stationary lighthouse for C&amp;D Canal)</td>
<td>Lorewood Grove Road, east of Ratledge Road</td>
</tr>
<tr>
<td>2) Shallcross Lake (associated with Drawyer Creek)</td>
<td>Shallcross Lake Road, south of Graylag Road</td>
</tr>
<tr>
<td>3) Farm Pond</td>
<td>Marl Pit Road, east of Brick Mill Road</td>
</tr>
<tr>
<td>4) Wetlands/Tidal Marsh associated with St. Georges Creek (Augustine Wildlife Management Area)</td>
<td>Liberty Street, north of Port Penn</td>
</tr>
<tr>
<td>5) Tidal Marsh associated with Augustine Creek</td>
<td>St. Augustine Road, north of Bayview Road</td>
</tr>
<tr>
<td>6) Delaware River (north)</td>
<td>St. Augustine Road, south of Port Penn Road</td>
</tr>
<tr>
<td>7) Historic Village (Oddsas)</td>
<td>Main Street</td>
</tr>
<tr>
<td>8) Small Tributary Pond/Swamp associated with Silver Lake</td>
<td>Wiggins Mill Road, north of Moore Road</td>
</tr>
<tr>
<td>9) Silver Lake</td>
<td>Silver Lake Road, north of Noxontown Road</td>
</tr>
<tr>
<td>10) Swamp/Wetlands associated with Sassafras River</td>
<td>Levels Road and Maryland Line Road: intersection</td>
</tr>
<tr>
<td>11) Blackbird Pond (associated with Blackbird Creek)</td>
<td>Mill Lane and Blackbird Forest Road: intersection</td>
</tr>
<tr>
<td>12) Wiggins Mill Pond (associated with Appoquinimink River)</td>
<td>Wiggins Mill Road, north of Townsend</td>
</tr>
<tr>
<td>13) Noxontown Lake</td>
<td>Noxontown Road, southeast of Silver lake Road</td>
</tr>
</tbody>
</table>
14) Swamp/Wetlands associated with Providence Creek
   Alley Mill Road
   at NCC border

15) Historic Village Elements (Delaney Corner)
   Delaney Church Road,
   Delaney Maryland Line Road, and
   Clayton Delaney Road: intersection

16) Delaware River (south)
   Collins Beach Road: end of road

17) Cedar Swamp
   Taylor’s Bridge Road: east
   Cedar Swamp Road: north/east/south
   Flemings Landing Road:east
   Thoroughfare Neck Road: north

18) Taylor’s Bridge School (Historic)
   Cedar Swamp Road and
   Flemings Landing Road: intersection

19) Tidal Marsh associated with Appoquinimink River
   Silver Run Road, south of
   Vance Neck Road

20) Silver Run Inlet
   Silver Run Road, north of
   Vance Neck Road

Vista Points*

- Liberty Street/Rt. 9 north of Port Penn
  (3 locations)
  w.- n.w. - e.
- Dutch Neck Road along C&D Canal
  s. - n.
- Port Penn Road, near Rt. 1
  n. – s.
- Port Penn Road, near Pole Bridge Road
  n.e.
- Port Penn Road, near Port Penn
  s.s.e.
- Thorntown Road
  w.n.w.
- Pole Bridge Road
  (5 locations)
  s.s.e.
• St. Augustine Road  
  (4 locations)  
  w.n.w. – e.

• Bay View Road  
  (5 locations)  
  s.s.e. – n.n.e.

• Silver Run Road  
  (7 locations between Bay View and Old Corbit Roads)  
  e. - w. - s.e. - n.w.

• Vance Neck Road  
  (3 locations)  
  s. – n.e.

• Old Corbit Road  
  n.w.

• Old State Road  
  (just south of Odessa)  
  n.e. – s.w.

• Old State Road  
  (just south of Chestnut Hill Drive)  
  s.e.

• Hammond Road  
  e.

• Taylors Bridge Road  
  (6 locations)  
  e.n.e. – n. – s.

• Fieldsboro Road  
  (4 locations)  
  n. – s. – n.e.

• Staves Landing Road  
  (4 locations)  
  s.e. – n. – n.e.

• Union Church Road  
  (2 locations)  
  s. – s.e.

• Cedar Swamp Road  
  (5 locations)  
  n.n.e. – n. - s.s.e. – s.

• Flemings Landing Road  
  (4 locations)  
  n.n.w. – e. – w.

• Thoroughfare Neck Road  
  n. – n.e. – n.w.

• Collins Beach Road  
  n. – s. – e.
- Deakyneville Road  
  s.s.e.

- Paddock Road  
  (6 locations)  
  n.w. – s.e. – s.w.

- McQuail Road  
  n.w.

- Alabam Road  
  e.

- Brick Store Landing Road  
  s.e.

- Duck Creek Road  
  e.

- Lorewood Grove Road  
  (6 locations between Rt.1 and Old Summit Bridge Road)  
  n. – s. – n.w.

- Ratledge Road  
  e. – w. – n.w.

- Hyetts Corner Road, near Jamison Corner Road  
  s.

- Jamison Corner Road  
  (3 locations)  
  e. – n. – n.e.

- Bethel Church Road  
  (5 locations)  
  n. – s. – s.e. – n.w.

- Chop Tank Road  
  (5 locations)  
  e. – n.w. – n.e. – s.e.

- Churchtown Road  
  (3 locations)  
  s. – n. – s.e.

- Boyds Corner Road  
  between Summit Bridge Road and Cedar Lane Road  
  s. – s.e.

- Shallcross Lake Road  
  (4 locations)  
  w. – n.w.

- Cedar Lane Road  
  (3 locations)  
  w. – n.w. – s.e.

- Marl Pit Road
• Old School House Road
  (2 locations) n. – n.w. – s – s.e.

• Bohemia Mill Road
  (3 locations west of Chop Tank Road) n. – s.

• Marl Pit Road
  (10 locations between Chop Tank and Odessa) n. – n.e. – s. – s.w.

• Bunker Hill Road
  west of Chop Tank Road n. – n.e. – s. – s.w.

• Middletown Warwick Road
  west of Middletown
  (2 locations) n.w. – s.

• Middletown Road (Rt. 299)
  Between Middletown and Odessa
  (5 locations) n. – n.w. – s. – s.e.

• Silver Lake Road
  (2 locations) w.

• Levels Road
  (5 locations) s. - s.e. – n.

• St. Anns Church Road
  (2 locations) s.e.

• Noxontown Road
  (5 locations) n.e. – n. – s.w. – w.

• Summit Bridge Road (Rt. 71)
  (6 locations) n.e. – e. – s.w.

• Wiggens Mill Road
  (7 locations) n.e. – e. – s. – s.w.

• Grears Corner Road
  (10 locations) n. – n.e. – s. – s.w.

• Green Giant Road

(6 locations) n. – n.e. – s. – s.w.
(2 locations) n.w. – s.e. – s.w.

- Moore Road
  (2 locations) n. – n.w. – s. – s.e.

- Caldwell Corner Road
  (5 locations) n. – n.w. – s. – s.e.

- Dogtown Road
  (5 locations) n. – n.e. – w.

- Blackbird Station Road
  (3 locations) n.e. – n.w. – s.e.

- Ebenezer Church Road
  n.

- Lloyd Guessford Road
  n.

- Dexter Corner Road
  (8 locations) n. – n.e. – s. – s.w. – w

- Blackbird Forest Road
  (4 locations) n.w. – s.w. – s.e. – w.

- Blackbird Greenspring Road
  s.e.

- Massey Church Road
  (3 locations) s. – s.w. – s.e.

- Vandyke Greenspring Road (Rt. 15)
  (6 locations) n. – n.w. – s. – s.w.

- Saw Mill Road
  (3 locations) n. – w. – s. – s.e.

- Alley Mill Road
  (2 locations) e.

- Oak Hill School Road
  (3 locations) n.w. – s.w.

- Clayton Delaney Road
  (3 Locations) n. – n.w.

- Black Stallion Road
  s.w.
- Harvey Straughn Road  
n. – s.w.

- Morris Road  
(3 locations)  
n. – w. – e. – s.w.

*Vista Points are places from which extensive views open up over the landscape. Such points are designated as arrows on the Scenic Inventory Map.

<table>
<thead>
<tr>
<th>Visual Intrusions</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Natural Gas Regulator Station</td>
<td>Armstrong Corner Road, east of Summit Bridge Road</td>
</tr>
<tr>
<td>B. High Tension Towers/Wires</td>
<td>Along large portion of western border of New Castle County</td>
</tr>
<tr>
<td>C. Dumping Along Road</td>
<td>Dutch Neck Road, north of Port Penn Road</td>
</tr>
<tr>
<td>D. Power Lines/ Oil Refinery</td>
<td>Dutch Neck Road, along C&amp;D Canal</td>
</tr>
<tr>
<td>E. Salem Nuclear Power Plant</td>
<td>New Jersey, east of NCC coastline</td>
</tr>
<tr>
<td>F. Power Lines</td>
<td>Taylor’s Bridge Road, south of Old State Road; north of intersection of Silver Run Road and Old Corbit Road</td>
</tr>
<tr>
<td>G. Guard Rail</td>
<td>Liberty Street, north of Port Penn</td>
</tr>
<tr>
<td>H. Maintenance/Inlet Building</td>
<td>St. Augustine Road at Landing</td>
</tr>
<tr>
<td>I. Power Lines</td>
<td>Along large portion of western border of New Castle County</td>
</tr>
<tr>
<td>J. Electric Substation</td>
<td>Dogtown Road and Levels Road: intersection</td>
</tr>
<tr>
<td>K. Transformer Relay, etc.</td>
<td>Clayton Delaney Road, west of Harvey Straughin Road</td>
</tr>
<tr>
<td>L. Substation</td>
<td>Flemings Landing Road and Thoroughfare Neck Road: intersection</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>M. High Tension Towers/Wires</td>
<td>Flemings Landing Road, north of Saw Mill Branch Road</td>
</tr>
<tr>
<td>N. Gravel and Sand Depot</td>
<td>Smyrna Landing Road, east of Paddock Road</td>
</tr>
</tbody>
</table>
Appendix 2

Standing Properties in Designated Scenic Views

Entries include Database ID #, CRS number (i.e., N-XXX), name of property, basic location, county tax parcel (where available), hundred, description, theme, and status.

ID # 6
N-106 The Maples (George Derrickson House)
Intersection of Bunker Hill Rd and Rd 435
Parcel: 13-022.00-001
St. Georges

The three story house was built in the 18th century, with a kitchen addition in the 1850s.

Theme: Agriculture
Status: National Register – Rebuilding of St. George’s Hundred

ID # 7
N-107 S. Holton House
East side of Rd 435, between Bunker Hill Rd and Bohemia Mill Rd.
Parcel: 13-017.00-093
St. Georges

The oldest section of this 2 ½ story, 5-bay frame house – the kitchen – comes from the 1840s, and the front section comes from about 1870. The property illustrates the spread of the peach industry.

Theme: Agriculture
Status: National Register – Rebuilding of St. George’s Hundred

ID # 9
N-109 Rhoades House (Choptank)
East side of Choptank Rd, between Old Schoolhouse and Churchtown Rds
Parcel: 13-012.00-093
St. Georges

This 3-story brick and mortar house is what is known as a “peach” house. Its two sections were built in 1840 and 1854, and the barn shows signs of the Italianate Revival. There is a pond near the house, and it is located along the railroad line.

Theme: Agriculture
Status: National Register
ID # 12
N-115
J. Shallcross House (Laurel Farm)
North side of Rt. 301, between Silver Lake and Brick Mill Rds.
Parcel: 13-023.00-007
St. Georges
This green and white, 2 ½ story Delaware Victorian farm house has a
cross gable tin roof with dormers. A large frame house, it is five bays
across and 4-5 bays deep. There is a windmill at the rear of the house,
painted in the same colors.

Theme: Agriculture
Status: National Register

ID # 13
N-116
Sereck Shallcross House (Oakland)
Rd 427, just east of junction with Rd. 428
Parcel: 13-018.00-134
St. Georges
This house is a conglomeration of Revival styles. The predominant
architectural style is Italianate, with Georgian inspiration. The porches
come from the Greek Revival period, with Egyptian Revival detailing
around the porch doors and interior windows and fireplaces, and there
is a Gothic Revival window on the rear of the house.

Theme: Agriculture
Status: National Register

ID # 16
N-119
Old Corbit Farm; William Corbit House
Old Corbit Road
Parcel: 14-003.00-001
Appoquinimink
Built around 1849, the first block of this brick house is a 2 ½ story, 4-
bay dwelling. The second block is also 2 ½ stories and has 2 bays,
including a door with a transom surrounded by wood molding. Both
blocks are built in common bond on a stone foundation. The brick
chimneys are covered in stucco. At the rear of the first block is a one-
story frame addition. Outbuildings are still present on the property,
which demonstrates the spread of the peach industry.

Theme: Agriculture
Status: Potentially Eligible
This mill, and accompanying 2-story brick house, was built in 1740, and the mill remained in production until the 1950s. The mill flourished because it was on a navigable river, and a village sprung up bearing the original owner’s name. Another factor that contributed to the mill’s longevity was its ability to adapt, changing machinery and purposes (from grain to cider to animal feed) with relative ease. It also served as a center for businesses relating to the river – ice-cutting, fishing and boating.

Theme: Agriculture, Fishing, Transportation, Manufacturing.
Status: Eligible – Mill=HAER DE#9, National Register

This 2 ½ story, 2 bay dwelling has a 1 ½ story addition and was built in the middle of the 19th century. It was remodeled earlier this century, and no original interior features remain.

Theme: Agriculture
Status: Potentially Eligible

A notable feature of this late 18th century house is its gambrel roof.

Theme: Agriculture
Status: Potentially Eligible

Also known as the Old Brick Hotel, this is the only documented 18th century commercial structure still standing at a high landing (a landing that could take large ships.) It served as a grain shipping center for the area. Glazed brick headers on the west wall of this 2 story, 3 bay building have a date of 1761 or 1767.

Theme: Agriculture, Transportation, Commerce
Status: National Register
ID # 29
N-136  J. McQuail House (Duck Creek Farm)
        Intersection of Eagle’s Nest Landing (467) and McQuail Rd (468)
        Parcel: 15-017.00-006

Blackbird

This 3 story, 5 bay brick house was built in the nineteenth century, though the kitchen addition comes from the 1940s.

Theme: Agriculture
Status: Potentially Eligible

ID # 30
N-137  Eagles Nest Hunt
        End of Road 467, Eagle’s Nest Landing
        Parcel: 13-017.00-008

Blackbird

The rundown brick house was built in two sections. The southeast end appears to have been built in the late 18th century; the north end and dormers could date from the early 19th century.

Theme: Agriculture
Status: Ineligible

ID # 34
N-150  Augustine Beach Hotel
        Augustine Rd., Port Penn
        Parcel: 13-015.00-003

St. Georges

Built in 1814, the highpoint of the life of this 6 bay, 2 ½ story brick building came in the 1930s, when it was the gathering spot for the upper class and political brass.

Theme: Entertainment/Recreation
Status: National Register

ID # 35
N-151  Liston Barn
        End of Rd. 453
        Parcel: 15-008.00-035

Blackbird

All that remains of the Liston property is an old barn, set back from the road. The property was acquired from the native Indians and a 3-bay brick home built in 1725. The surrounding countryside is beautiful in its unpopulated tranquility.

Theme: Agriculture
Status: Ineligible
ID # 36  
N-152  
Blackbird  
Hart House  
East of Taylor’s Bridge, gravel road off north side of Rd. 453.  
Parcel: 15-002.00-002  
This Flemish bond brick 3-bay 2-story house was built in 1740. It was the site of a gun battle in 1747, in the War of Jenkin’s Ear. Currently, it is owned by Delaware Wild Lands, Inc., called the Liston Farm, and is part of their project to reintroduce the Canadian goose to the area.  
Theme: Agriculture, Architecture, Military, Politics/Government.  
Status: National Register

ID # 37  
N-153  
Blackbird  
Fleming’s Landing  
Paddock Rd (430), south of Deakyneville Rd (492)  
Parcel: 15-017.00-009  
Built in 1830, Fleming’s Landing is a 2 ½ story, 5 bay frame structure, with a 2-story frame wing. Typical of the Greek Revival period in which it was constructed, the decorative detailing of the house includes elegant tapered square porch supports and segmental dormers with ornate pilasters. Numbering among the outbuildings are barns, sheds, a granary, and a milkhouse.  
Theme: Agriculture, Architecture, Commerce  
Status: Potentially Eligible

ID # 39  
N-214  
Appoquinimink  
Fairview (James Moore House)  
Intersection of Old Corbit Rd (424) and Old State Rd (Del 299)  
Parcel: 14-002.40-106  
One of the best preserved examples of rural Georgian architecture in Delaware, this 2 ½ story, 5 bay brick house was built in 1773 by Major James Moore. Major Moore was a member of the Society of the Cincinnati, and was commissioned to stop piracy on the river against area farms. The interior of the house preserves its original paneling.  
Theme: Architecture  
Status: National Register
ID # 43
N-419
Huguenot House (E. Naudain House)
Taylor’s Bridge Rd (Rd 449), east of intersection with Rt. 9
Parcel: 14-017.00-049
Appoquinimink
Elias Naudain, a Huguenot colonist, built this home in 1711. The 4 bay, 2 ½ story house is brick, with a wood frame service wing on the south end.
Theme: Agriculture
Status: National Register

ID # 49
N-570
Clearfield Farm
Grounds of Delaware Correctional Center, Rd. 485
Parcel: 15-022.00-080
Blackbird
Though its surroundings may not be so congenial now, the setting for this house would have been quite nice when it was first constructed in the 18th century. The farm was once home to John Clark, the 20th governor of Delaware.
Theme: Agriculture, Prisons
Status: National Register

ID # 651
N-3657
Vogl Tower/Flemings Landing Lighthouse
Delaware Point, off of Collins Beach Road
Parcel: 15-013.00-002
Blackbird
Tall and spired, the metal structure of the lighthouse is barely visible looking south from the end of Collins Beach Road at the tip of Collins Beach.
Theme: Transportation, Architecture, Engineering
Status: Potentially Eligible

ID # 93
N-3839
Dwelling
Flemings Landing Road, near intersection with Saw Mill Branch Road
Parcel: 15-008.00-046
Blackbird
This 2 ½ story, 5 bay, single pile frame dwelling has a brick foundation. It is cross-gabled and has two gable-end interior chimneys on either end of the core. The dwelling has rear additions and is covered with wooden siding. Its front porch is supported by turned baluster posts and features decorative tracery.
Theme:
Status: Archeological Site
ID # 115
N-3888 John Ashton House
Rt. 9 at Thorntown Rd (418)
Parcel: District
St. Georges
Part of the Ashton Historic District, along with N-3889 and N-3933, the original section of this brick house was built on a hall and parlor plan.
Theme: Agriculture
Status: National Register District

ID # 117
N-3900 Geraldville – 1741 House
Rt. 9 – ¼ mile west of Bayview Rd.
Parcel: 13-019.00-021
St. Georges
This home was built in four parts, beginning in 1741 and ending in 1840. The interior still has much of the woodwork from the 1741 home and 1790 addition, while the brick exterior shows Federal influences. The rear screen porch supports are cast-iron columns.
Theme: Agriculture
Status: Potentially Eligible

ID # 118
N-3901 Bayview Lighthouse
Bayview – Middletown RD 2
Parcel: 13-020.00-001
St. Georges
The small Bayview Lighthouse is a 2-story frame building with tower in excellent condition. Though it was originally built and used as a navigational aid, the light was taken from the tower and turned into a residence.
Theme: Transportation, Fishing
Status: Potentially Eligible

ID # 124
N-3919 J. Corbitt House (I)
Blackbird Landing Road
Parcel: 14-017.00-004
Appoquinimink
The frame Corbitt house is in two parts, both built in the 19th century. The projecting entrance has Gothic arch windows in the second-story end-gable, and the whole is painted a distinctive shade of blue.
Theme: Agriculture
Status: Potentially Eligible
ID # 125
N-3920
Appoquinimink
The oldest section of this 2-story L-shaped house dates to about 1690, and is the only log building remaining in the nearby area. It was originally a settler’s dwelling. It has additions from 1740, 1920 and the 1970s, and though the exterior has been modernized, it still retains a measure of authenticity inside. The original barn sits nearest to the house.

Theme: Agriculture
Status: Potentially Eligible

ID # 128
N-3930
Achmester
St Georges
This 1 ½ story wood frame house is an example of a “telescope” farmhouse. The earliest section dates from 1720, while the connecting wing is of the Victorian period. Architecturally, this structure shows a style and character highly unusual in Delaware; note especially the bargeboard trim of the cornice, and the pendants at the peak of the gable.

Theme: Agriculture
Status: National Register

ID # 129
N-3933
Robert Ashton House (Yardleydale)
St. Georges
This farm is part of a historic district formed by this home, the John Ashton House (N-3888), and the Joseph Ashton House (N-3889). The original section of the house, on a hall-and-parlor plan, dates from the late 18th century, with a 19th century one-room addition.

Theme: Agriculture
Status: National Register – Historic District
ID # 132  
N-3936  
J. Ellison House  
Dutch Neck Road  
Parcel: 13-004.00-008  
St. Georges  
The first part of this house was built in the late 18th century, with a later wing addition in the 19th century. There is also an early 19th century granary associated with the property.  
Theme: Agriculture  
Status: Ineligible

ID # 135  
N-3939  
John B. Nelson House  
Old Dutch Neck Rd (417)  
Parcel: 13-004.00-002  
St. Georges  
Seen on the 1868 Beer’s Atlas, this is a 2 ½ story 4 bay brick house, with a 2 bay addition. There are several associated outbuildings.  
Theme: Agriculture  
Status: National Register

ID # 139  
N-3944  
J. Cleaver House  
Port Penn Rd (2), east of the graveyard  
Parcel: 13-009.00-016  
St. Georges  
The original portion of this 2 story, 5 bay brick house was built in the 1730s, with a kitchen wing added in the 1830s. The 2 story gable-end wing and one story gable-end additions were built in the nineteenth century.  
Theme: Agriculture  
Status: National Register

ID # 146  
N-4154  
R. Rothwell House (1868)  
Clayton Delaney Rd, west of Clayton Greenspring Rd  
Parcel: 15-026.00-140  
Blackbird  
The owner of this 2 ½ story, 5 bay frame house has found evidence of 1770s construction. The property also encompasses some dairy and milk barns.  
Theme: Agriculture, Husbandry  
Status: Potentially Eligible
ID # 148  
N-4156  
W.E. Riggs House  
Alley Mill Road, north of Clayton Delaney Rd  
Parcel: 15-026.00-034  
Blackbird  
This property appeared in the 1868 Beer’s Atlas. The house, a wood-frame 3-bay story, is now gone, but the outbuildings – a barn and shed – still remain.  
Theme: Agriculture  
Status: Ineligible  

ID # 149  
N-4157  
B. Money House  
Rd. 471, between Clayton Delaney and Oakhill School Rds  
Parcel: 15-021.00-008  
Blackbird  
Shown in the 1868 Beer’s Atlas is this 5-bay, 2 ½ story wood frame house. It has a wide variety of outbuildings associated with it: a barn, two sheds, garage, privy and smokehouse.  
Theme: Agriculture  
Status: Potentially Eligible  

ID # 150  
N-4158  
A. Webster House  
Rd. 471, between Clayton Delaney and Oakhill School Rds  
Parcel: 15-026.00-081  
Blackbird  
Directly across from the B. Money house is this 2 story, 3 bay, frame house, built in 1893. It now serves as a tree nursery.  
Theme: Agriculture  
Status: Potentially Eligible  

ID # 153  
N-4161  
P. Young House  
VanDyke Greenspring Rd (DE 15) at Alley Mill Rd (Rd 483)  
Parcel: 15-021.00-013  
Blackbird  
Notable about this 2 ½ story, 4 bay frame house are the unique wooden supports of the front screen porch. It was built in the 19th century.  
Theme: Agriculture  
Status: Potentially Eligible
ID # 154
N-4162
Simmons House
Off Black Stallion Rd, between Reynold’s and Powell’s Corner
Parcel: 15-020.00-036

Blackbird
A frame, 2 ½ story, early 19th century house, with barns and sheds.

Theme: Agriculture
Status: Potentially Eligible

ID # 797
N-4242
J. C. Lattomus House
Flemings Landing Road at intersection with Deakyneville Road
Parcel: 15-012.00-012

Blackbird
Built in the mid-19th century, this 2 ½ story 5-bay, single pile dwelling has a rear 2 ½ story ell with a shed addition. The core has end chimneys and there is a central chimney on the ell. The front porch has since been enclosed but the turned balusters and tracery are still somewhat visible behind the glass.

Theme: Agriculture
Status: Potentially Eligible

ID # 155
N-4247
Johnson Home Farm
Cedar Swamp Rd (Rd 453)
Parcel: 15-004.00-028

Blackbird
Built in the late 18th century, the main 2 story, 5 bay block of this house is constructed of braced frame and log; the 2 story, 3 bay wing is also of log construction. It is sided in unfinished clapboard, has a corrugated tin roof, and appears to be situated on pilings. See N-13375 for the associated outbuildings that remain standing.

Theme: Agriculture, Settlement Patterns and Demographic Changes
Status: National Register

ID # 528
N-4248
I. Staats Farm
Cedar Swamp Road
Parcel: 15-002.00-002

Blackbird
Built before 1868, this frame farm dwelling stands 2 ½ stories and has 4 bays. It has two gable-end interior chimneys and a second period rear ell with a chimney. The dwelling is covered in white siding and has a shed-roofed front porch. Outbuildings complete the setting of this farmstead.

Theme: Agriculture
Status: Potentially Eligible
ID # 795
N-4249
C. B. Deakyne House
Paddock Road, near Long Bridge
Parcel: 15-012.00-008
Blackbird
Built in the early 19th century, this dwelling stands 2 ½ stories tall, and is a 5 bay, 2 pile house with a cross-gable roof. A rear 2 story ell was followed by a third-period garage added to the rear. The dwelling has front and side porches, the front of which is enclosed. The dwelling is now covered in vinyl siding. The surrounding outbuildings are modern.

Theme: Agriculture
Status: Potentially Eligible

ID # 156
N-5120
Reedy Island Range Rear Lighthouse
Taylor’s Bridge Rd (449) at Flemings Landing Rd (DE 9)
Parcel: 15-004.00-002
Blackbird
Used for the same purpose as N-1623, the Liston Range Rear Light, the Reedy Island Light is made of cast iron, and was built in 1910.

Theme: Engineering, Maritime History
Status: National Register

ID # 162
N-5133
R.T. Cochran House
Northwest of intersection of Rd. 429 and Shallcross Lake Rd (428)
Parcel: 13-017.00-041
St. Georges
Though in fairly poor condition now, R. T. Cochran built this 3 story, 11 bay frame house in about 1840; it was listed in the 1868 Beers Atlas. It has a gable hip on a plate roof.

Theme: Agriculture
Status: Potentially Eligible

ID # 163
N-5134
Mrs. E. Burnham House
Marl Pit Rd (Rd. 429), east of Cedar Lane
Parcel: 13-017.00-040
St. Georges
The original section of this four story, 2 bay house was torn down in 1917. Numerous outbuildings still remain, including four barns, a shed, a shop, a garage, silo and wind well.

Theme: Agriculture
Status: Ineligible
ID # 164
N-5135
St. Georges
Okolona (R.T. Cochran House)
Shallcross Lake Rd (Rd 426)
Parcel: 13-018.00-002
This is a 3 story, 12 bay farmhouse, built in 1866. Though now deteriorated, the farm’s original purpose was to raise and show dairy herds.
Theme: Agriculture
Status: National Register

ID # 177
N-5148
St. Georges
T. Murphy House (Rosedale)
Bunker Hill Rd (437) at Choptank Rd (435)
Parcel: 13-021.00-035
Over the years, Rosedale has been known as a famous horse farm. The date is uncertain for the brick and frame house, though it is of the Georgian style and appeared in the 1868 Beers Atlas. At one time, this house was owned by a member of the du Pont family.
Theme: Agriculture
Listing: National Register – Rebuilding of St. George’s Hundred

ID # 197
N-5169
St. Georges
Barn
Intersection of Rt. 9 and Bay View Rd (Rd 423)
Parcel: 13-013.00-041
All that remains of this former frame tenant house and farm is the barn.
Theme: Agriculture
Status: Ineligible

ID # 198
N-5170
St. Georges
Riverside (W. B. Diehl)
Rt. 9 at Bay View Rd.
Parcel: 13-019.00-010
The core of this house is 2 ½ stories high, and 4 bays wide. The two front doors on the structure do not suggest that it was once a duplex, but rather that there are two front parlors. Other notable features of this property are a stone basement, and connected barn and shed.
Theme: Agriculture
Status: Potentially Eligible
ID # 199
N-5171
R.D. 2
Bay View Rd. at New Rd.
Parcel: 13-020.01-024
St. Georges
This frame house has been completely modernized, but still shows a hint of its original character in its 2 ½ story, 5 bay design.
Theme: Agriculture
Status: Ineligible

ID # 203
N-5175
House
Vance Neck Rd
Parcel: 13-019.00-005
St. Georges
Built around 1870, this is a 2 story, 3 bay frame house with rear 2 story ell addition.
Theme: Agriculture
Status: Potentially Eligible

ID # 204
N-5176
J.M. Gordon House
Vance Neck Rd., west of Silver Run Rd.
Parcel: 13-019.00-004
St. Georges
The original section of this 2 story, brick and frame house was of a one room side hall design; subsequent additions brought it up to its present 7 bay shape. The property appeared in the 1868 Beers Atlas.
Theme: Agriculture
Status: National Register

ID # 205
N-5177
Vandergrift
South side of Vance Neck Road, west of Silver Run Rd.
Parcel: 13-019.00-002
St. Georges
Built between 1770 and 1790, this is a 2½ story, 3 bay side hall plan dwelling with a 2 ½ story, 2 bay addition to the east and a 2 ½ story concrete rear wing addition to the south. The main block was built of red brick laid in common bond on a brick foundation. It has 2 gable-end chimneys. The property includes a granary and dairy barn.
Theme: Agriculture
Status: National Register
ID # 206  
N-5178  
Charles C. Weldon Farm  
Ashleigh Drive, off of Vance Neck Rd  
Parcel: 13-019.00-001  
St. Georges  
The original portion of this masonry and brick house dates from 1770-1790.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 207  
N-5179  
Sugar Loaf Tenant Farm  
South of Intersection of Vance Neck Rd. and US 13.  
Parcel: 13-018.00-141  
St. Georges  
This tenant farm complex dates from the third quarter of the 19th century, and includes a house, chicken house and cow barn. It was connected with the Sugar Loaf estate.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 273  
N-5189  
S. Boggs House and Agricultural Complex  
Ratledge Road (Road 414)  
Parcel: 13-007.00-021  
St. Georges  
Though the brick house has been demolished, this farmstead retains a barn with a cedar shingle roof, a small outbuilding with board and batten siding and a gable roof, an equipment shed with a standing seam tin roof, and a windmill. All of these older buildings are in dilapidated condition. Newer buildings on the property include a cinderblock outbuilding with a board gable and corrugated roof, and a silo with an attached outbuilding that has a standing seam roof. The farmstead dates from 1882 at the latest.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 220  
N-5195  
J Houston House  
East side of Jamison Corner Rd (414)  
Parcel: 13-008.00-006  
St. Georges  
This frame and brick house is a vernacular example of the Gothic Revival architectural movement.  
Theme: Agriculture  
Status: Potentially Eligible
ID # 225
N-5200
Glenwood (W. McMullen House)
Port Penn Rd at Pole Bridge Rd
Parcel: 13-009.00-024
St. Georges
Built in 1848, the original frame walls of this 2 ½ story, 5 bay house have been covered by 20th century siding.
Theme: Agriculture
Status: Potentially Eligible

ID # 236
N-5211
A.M. Vail House
East of intersection of Silverlake Rd and Rd. 438 (Middletown Main St.)
Parcel: 13-022.00-013
St. Georges
A 2 story, 5 bay house with 2 wings. Also includes barn, shed and garage.
Theme: Agriculture
Status: National Register

ID # 239
N-5214
Drummond’s Mill House
Silverlake Rd
Parcel: 13-028.00-001
St. Georges
The owner of the nearby mill lived in this 2-story, 5-bay house with 2-story wing, built in the mid 1800s.
Theme: Industry
Status: Potentially Eligible

ID # 240
N-5215
Drummond’s Mill
Silverlake Rd
Parcel: 13-028.00-001
St. Georges
Built to process local crops, the Mill stands today above its millrace. Scattered around it are a storage shed and other buildings.
Theme: Industry/Agriculture
Status: Potentially Eligible
The Southern New Castle County Scenic River and Highway Study

ID # 255  
N-5233  
J.R. Hoffecker House (Buena Vista)  
Bunker Hill Rd. (437) west of Rd 435  
Parcel: 13-021.00-008  
St. Georges  
This 18th century, Georgian style home – constructed of stone, brick and frame – started out as a 2 ½ story, 5 bay house, and has had 2 sections added – a 2 story, 2 bay addition and a 1 story, 1 bay. It also has a number of ghost stories associated with it.

Theme: Agriculture  
Status: Potentially Eligible

ID # 270  
N-5268  
D. Corbit House (Roberts’ Farm)  
End of Stave’s Landing Rd.  
Parcel: 14-008.00-040  
Appoquinimink  
This 1850s frame house, with a kitchen wing addition, is surrounded by the numerous outbuildings necessary for running a farm. They include a barn, carriage house, shed, granaries and cow stable.

Theme: Agriculture  
Status: Potentially Eligible

ID # 271  
N-5269  
R. Milligan House  
Staves Landing Rd. at Del. 9  
Parcel: 14-014.00-011  
Appoquinimink  
The main brick block of this house dates from about 1760-1820, while the frame section is from the 1830s or ‘40s. The farmstead also includes the bizarrely named “rat house.”

Theme: Agriculture  
Status: Potentially Eligible

ID # 282  
N-5841  
W. Ginn House  
Caldwell Corner Rd, east of Grears Corner Rd  
Parcel: 14-015.00-006  
Appoquinimink  
This tiny one-story, 2 bay frame house is an example of the Cape Cod style, still so popular today. This particular example was built in 1920.

Theme: Agriculture  
Status: Potentially Eligible
ID # 287
N-5855 A. Clemens house (Corbit-Collins farm)
South side of Union Church Rd (456)
Parcel: 14-016.00-159

Appoquinimink
Unusual for its pre-1868 construction date, this frame is asymmetrical in its 4-bay design.
Theme: Agriculture
Status: Potentially Eligible

ID # 290
N-5859 J. Cripps Barn
McKays Corner Rd (475) at Rd. 476
Parcel: 14-014.00-003

Appoquinimink
The house that went with this barn burnt down in 1975; only the foundations remain. However, the 2 ½ story T shaped wood frame barn is made of vertical planking, painted brick red. The roof is tin and there are windows in the north and west sides. A large window illuminated the loft at the east end. The original barn was L shaped with the addition recently added. Other outbuildings are for storage or livestock, and are wood frame of simple design and decoration.
Theme: Agriculture
Status: Potentially Eligible

ID # 291
N-5860 House
Saw Mill Rd (476), north of McKay’s Corner Rd (475)
Parcel: 14-021.00-019

Appoquinimink
A two-story, 3 bay frame house with corrugated metal gable roof.
Theme: Agriculture
Status: Eligible

ID # 292
N-5861 House
Saw Mill Rd (476), north of McKay’s Corner Rd (475)
Parcel: 14-021.00-016

Appoquinimink
The center cross gable roof of this 2 ½ story, 3 bay frame house suggests a late 19th century construction date.
Theme: Agriculture
Status: Eligible
ID # 293
N-5863  
Naudain-Corbit  
Del 9 at Rd 456  
Parcel: 14-013.00-004  

Appoquinimink  
The brick exterior of this farmhouse hides a frame exterior, suggesting an addition. The front section was most likely built between 1812-35, whereas the rear was built prior to 1812. The floorplan is that of a doublepile, side hall.

Theme: Agriculture  
Status: Potentially Eligible  

ID # 294
N-5864  
D. Corbitt House  
North side of Del 9 (Taylor’s Bridge Rd)  
Parcel: 14-013.00-015  

Appoquinimink  
This frame house once served as a dairy farm, and dates to before the Civil War.

Theme: Agriculture  
Status: Potentially Eligible  

ID # 300
N-5871  
Pleasant Valley  
Silver Run Rd (Del 9/424)  
Parcel: 14-003.00-009  

Appoquinimink  
This property has a long history; land deeds can be traced all the way back to 1694. The brick house itself dates to somewhere between 1750 and 1860, with a kitchen addition from the 1950s.

Theme: Agriculture  
Status: Potentially Eligible  

ID # 302
N-5873  
Prospect Hill  
Silver Run Rd (Del 9/424)  
Parcel: 14-003.00-008  

Appoquinimink  
A 2 ½ story, 5-bay frame house, with connecting el and lean-to, dating to before 1868, when it appeared in the Beers’ Atlas.

Theme: Agriculture  
Status: Potentially Eligible
ID # 316
N-5890
Appoquinimink
Corbitt House
Rd 456, between Blackbird Landing Rd and Del 9
Parcel: 14-017.00-009
Hand-hewn bracing delineates the original section of the house; another hallmark of this timber frame structure is the mortise and tenon joints. The 2½ story, 5 bay home of the locally prominent Corbitt family dates from the 1850s.
Theme: Agriculture
Status:Potentially Eligible

ID # 317
N-5891
Appoquinimink
J.C. VanDyke House
VanDyke Maryland Line Rd at VanDyke Greenspring Rd (47)
Parcel: 14-018.00-024
There are two houses on this property; one is a 2 story frame structure, while the other is a single story log house with rubble stone foundation. The earliest sections date from 1775.
Theme: Agriculture
Status: National Register

ID # 318
N-5892
Appoquinimink
H. Cierce House
Caldwell Corner Rd (25), just east of Maryland Line Rd. (461)
Parcel: 14-018.00-005
A 2 story, 3 bay frame house in an L-shaped plan.
Theme: Agriculture
Status:Potentially Eligible

ID # 323
N-5898
Appoquinimink
Hill Island Farm
East of Noxontown, west of 1
Parcel: 14-007.00-004
An example of the Federal style, this 2½ story, 5 bay brick house was built circa 1770 or earlier. The brickwork of the front of the house is in Flemish bond with glazed headers; random glazed headers appear on the rear and sides. The 2 story rear frame addition was built in the 19th century.
Theme: Architecture, Social History
Status: National Register
ID # 325
N-5900
Wilson House
Noxontown Road
Parcel: 14-007.00-002
Appoquinimink
This 5 bay, 2 ½-story Greek Revival frame dwelling has green siding with light yellow trim. There are twin gable-end interior brick chimneys and another on the 2-story rear service ell. The front elevation features a 1-story flat-roofed portico across the middle 3 bays supported by square columns, as well as a dentiled cornice. Above the front door is a transom window; the remaining windows are 2 over 2 double-hung sash windows. The rear ell has a screened porch. This dwelling is part of an agricultural complex that includes a dairy barn, a corn barn and several additional outbuildings with board-and-batten siding and vestiges of red paint.

Theme: Agriculture, Architecture
Status: Potentially Eligible

ID # 990
N-5904
Mrs. Polke House
Fieldsboro Road
Parcel: 14-012.20-089
Appoquinimink
Sitting back slightly from the road, this 2 story, 3 bay dwelling with a rear ell is made of frame on a brick foundation. White siding covers the original weatherboard. There is also a cross-gable roof covered with asphalt shingles, a pedimented central dormer, and a front porch.

Theme: Architecture
Status: Potentially Eligible

ID # 329
N-5905
Cropper house
DE 9, south of Staves Landing Rd
Parcel: 14-013.00-001
Appoquinimink
Built between 1835 and 1838, the house and barn are good examples of balloon frame and post-and-brace construction, respectively.

Theme: Agriculture
Status: Potentially Eligible
<table>
<thead>
<tr>
<th>ID #</th>
<th>Name</th>
<th>Address</th>
<th>Parcel</th>
<th>Appoquinimink</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>W. Gaddis House</td>
<td>VanDyke Greenspring Rd, east of Lloyd Guessford Rd</td>
<td>14-022.00-004</td>
<td>This chicken farm is of relatively recent construction, dating from 1905, with a 1942 kitchen addition. Theme: Agriculture/husbandry Status: Potentially Eligible</td>
</tr>
<tr>
<td>331</td>
<td>F. J. Herr House</td>
<td>VanDyke Greenspring Rd, east of Lloyd Guessford Rd</td>
<td>14-022.00-004</td>
<td>Another chicken farm, this one dating from 1852, and displaying a brace frame construction method. Theme: Agriculture/husbandry Status: Potentially Eligible</td>
</tr>
<tr>
<td>332</td>
<td>J. C. VanDyke House</td>
<td>VanDyke Greenspring Rd, west of Rd 476</td>
<td>14-022.00-068</td>
<td>As the story has it, the brick that was used to build this house was imported from England. It’s highly unlikely that precious cargo space would have been used for such an item, though. The farm is also an example of brace framing. Theme: Agriculture Status: Potentially Eligible</td>
</tr>
<tr>
<td>657</td>
<td>J. Miller House</td>
<td>Saw Mill Road</td>
<td>14-021.00-008</td>
<td>This 2 ½ story, cross-gable, white frame house features double gable-end interior chimneys. It has a front porch with a shed roof and 4 pillars, a rear 1 ½ story lean-to addition, and a standing-seam tin roof. The dwelling is part of an agricultural complex with livestock. Theme: Agriculture Status: Potentially Eligible</td>
</tr>
</tbody>
</table>
ID # 333  
N-5910  
Brook Ramble Tenant House  
Greers Corner at Moore  
Parcel: 14-011.00-025  

Appoquinimink  
This 2 story, four bay, gable roofed dwelling with an ell addition is of frame on a brick foundation. It was built between 1849 and 1868. It has two interior gable end chimneys and front and side porches. It is covered with pink asphalt shingle; the roof is covered in standing-seam tin.

Theme: Agriculture, Architecture  
Status: Eligible

ID # 340  
N-5917  
Fairview  
Moore Rd (458) west of Wiggins Mill Rd (446)  
Parcel: 14-011.00-002  

Appoquinimink  
The frame house of this dairy farm is 2 ½ stories tall and 3 bays wide, and was built in 1929 or 1930.

Theme: Agriculture, Husbandry  
Status: Eligible

ID # 348  
N-5926  
House  
Dexter Corner Rd (36), south of Blackbird Station Rd (463)  
Parcel: 14-019.00-188  

Appoquinimink  
This dairy farm is smaller than most in the area, and the date of the original section is not sure. There are 6 barns – 2 livestock, 2 milking, and 2 equipment – and various other outbuildings associated with the property.

Theme: Agriculture/husbandry  
Status: Potentially Eligible

ID # 349  
N-5927  
R. C. Hayes House  
Dexter Corner Rd (36), south of Blackbird Station Rd (463)  
Parcel: 14-022.00-026  

Appoquinimink  
[housenot available for survey? Shack?]  

Status: Potentially Eligible
ID # 350  
R. T. Lockwood Farm  
Grears Corner Rd (459) west of Green Giant Rd (458)  
Parcel: 14-006.00-004  
Appoquinimink  
A 3 story, 9 bay brick house.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 352  
Rothwell House  
Green Giant Rd (458) between state line and Dogtown Rd (DE 15)  
Parcel: 14-014.00-007  
Appoquinimink  
The modern ranch house you see is obviously not original, but was built on the foundations of the original 1745 house, which burned in 1958.  
Theme: Agriculture  
Status: Ineligible

ID # 362  
J. T. Bird House  
Bethel Church Rd, west of Choptank Rd  
Parcel: 11-061.00-005  
Pencader  
The two additions on this 2 story, 3 bay brick house were built in the late 1700s and in 1840.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 513  
D. W. Thomas Estate  
Thomas Landing Road  
Parcel: 14-003.00-013  
Appoquinimink  
Built in the mid-19th century, this agricultural complex features a dwelling with a gable roof and several outbuildings. The dwelling is 2 ½ stories, 5 bays, single pile, and was built as a center passage plan on a rubble stone foundation. It features two gable-roofed dormers, an interior gable end chimney, and a front porch. There is a rear 1 story ell with a lean-to; the entire dwelling is covered with weatherboard siding. Originally roofed in tin, the roof is now shingled. The complex is set very far back from the road.  
Theme: Agriculture, Architecture  
Status: Potentially Eligible
ID # 373  
N-6270  
William P. Fisterer House  
Eagles Nest Landing Rd at Hwy 1  
Parcel: 15-010.00-055  
Blackbird  
This small wood frame house was built before 1893, when it appears in a local atlas.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 374  
N-6271  
Mrs. M. V. Reynolds Estate  
US 13, in Frederick Lodge Mobile Home Park  
Parcel: 15-015.00-032  
Blackbird  
A large, 3-story 5-bay frame house, formerly part of a farm. Some outbuildings may remain.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 379  
N-6275  
Harry Wells House  
Rd 470, north of VanDyke Greenspring Rd  
Parcel: 15-022.00-002  
Blackbird  
Although the house has been demolished, various outbuildings remain.  
Theme: Agriculture  
Status: Ineligible

ID # 381  
N-6277  
J. Armstrong House  
Taylor’s Bridge Rd (Del 9)  
Parcel: 15-003.00-003  
Blackbird  
Sitting just east of Blackbird Creek, this frame house was listed in the 1893 Baist’s Atlas. It bears a T addition, and 2 lean-tos.  
Theme: Agriculture  
Status: Potentially Eligible
ID # 382  
N-6278  
Blackbird  
House  
Taylor’s Bridge Rd (Del 9)  
Parcel: 15-003.00-004  
Just across from the J. Armstrong House is this possible former dairy farm. Among its three wings is an original “L” addition. The house dates from about 1900.  
Theme: Agriculture  
Status: Potentially Eligible

ID # 609  
N-6284  
Blackbird  
Taylors Bridge School  
Flemings Landing Road  
Parcel: 15-004.00-0007  
Built in 1923 as part of the DuPont initiative to construct schools in Delaware, this 5-bay, single pile, brick schoolhouse stands 1½ stories tall. It features a portico on the east end of the façade with a pediment supported by two Doric columns and two pilasters. Over the front doors is a transom window. The north gable end is covered in wooden siding and features decorative cornice returns. Large 9 over 9 double-hung sash windows retain their original glass panes. A bell tower pierces the roof on this northern end. A large bank of windows runs along the rear elevation. The south gable end has an exterior chimney. An historical marker along the road in front of the building tells the story of the school.  
Theme: Education; Major Families, Individuals, and Events  
Status: Potentially Eligible

ID # 387  
N-6286  
T. J. Lambdin House  
Walker School Rd (45) at Gardner Rd (490)  
Parcel: 15-011.00-024  
Blackbird  
Though now overgrown, this mid-1800s farm once raised Perdue chickens and grapes. There are 2 modern (1920s) chicken sheds.  
Theme: Agriculture/husbandry  
Status: Potentially Eligible
ID # 388
N-6287 R. H. Armstrong House
Walker School Rd, south of Gum Bush Rd (51)
Parcel: 15-011.00-025

Blackbird
The flagstone in the corner says that S. Roberts built this large dairy farmhouse in 1876. An interior cupboard has a hand-painted wood grain circa the 1880s. Arrowheads have been found in the surrounding fields.

Theme: Agriculture/husbandry
Status: Potentially Eligible

ID # 389
N-6288 G. D. Collins House
VanDyke Greenspring Rd, between Dexter and Prices Corners
Parcel: 15-021.00-128

Blackbird
This timber frame farmhouse dates from 1880.

Theme: Agriculture
Status: Potentially Eligible

ID # 390
N-6289 M. D. Wilson House
NE of intersection of Rd 471 and VanDyke Greenspring Rd
Parcel: 15-021.00-014

Blackbird
A “T” configuration with central cross gable, this farmhouse was built in the mid- to late 1800s.

Theme: Agriculture
Status: Potentially Eligible

ID # 391
N-6290 H. Crockett
Blackbird Greenspring Rd (484) at Rd 485
Parcel: 15-021.00-194

Blackbird
The frame structure of this house is hidden beneath false brick siding; the home dates from the latter half of the nineteenth century. There is a small lean-to cellar.

Theme: Agriculture
Status: Potentially Eligible
ID # 392
N-6292
G. B. Rodney House
Clayton Delaney Rd (40) at Black Stallion Rd (481)
Parcel: 15-025.00-014
Blackbird
This wood frame house was built prior to 1868. Interesting outbuildings include a carriage house and springhouse.
Theme: Agriculture
Status: Potentially Eligible

ID # 394
N-6295
Dan Staats House
Walker School Rd, north of Black Diamond Rd.
Parcel: 15-016.00-062
Blackbird
The south portion of this house – the original section – was once used as a store. The oldest barn may have been a slave house.
Theme: Agriculture
Status: Potentially Eligible

ID # 395
N-6296
A. Stockley House
Paddock Rd (30), north of Black Diamond Rd (469)
Parcel: 15-016.00-084
Blackbird
A 2 story, 3 bay frame house.
Theme: Agriculture
Status: Potentially Eligible

ID # 793
N-6298
Mrs. Gardner House
Paddock Road, near the intersection with Gardner Road
Parcel: 15-021.00-036
Blackbird
The core of this dwelling stands 2 ½ stories tall and has 3 bays. The rear addition appears to have been added before the two story, 2 bay addition to the right of the core. This addition has a masonry chimney. The frame dwelling is situated on a brick foundation and is covered with green asbestos siding and asphalt shingled arranged in a herringbone pattern.
Theme: Architecture
Status: Potentially Eligible
ID # 396
N-6310 Anna M. Price House
Intersection of Rd 471 and VanDyke Greenspring Rd (Prices Corner)
Parcel: 15-021.00-002
Blackbird
A timber-frame farmhouse dating from 1880
Theme: Agriculture
Status: Potentially Eligible

ID # 397
N-6311 A. C. Latimus House (Circle WJM Farm)
Oakhill School Rd (479) west of Blackbird Forest Rd (471)
Parcel: 15-021.00-065
Blackbird
This 3 story, 5 bay frame house was built in the mid- to late-19\textsuperscript{th} century.
Theme: Agriculture
Status: Potentially Eligible

ID # 399
N-6313 House
Blackbird Greenspring Rd (484) at Rd 485
Parcel: 15-021.00-024
Blackbird
A timber frame farmhouse with 2-story el dating from the 1870s or ‘80s
Theme: Agriculture
Status: Potentially Eligible

ID # 401
N-6315 J. Spears Estate
Paddock Rd (30) between 485 and Rte 1
Parcel: 15-022.00-075
Blackbird
On a site adjacent to the state prison this vernacular Victorian farmhouse, in the cross-gable style, is a good example from the late 19\textsuperscript{th} century.
Theme: Agriculture
Status: Potentially Eligible
ID # 791  
N-6316  
Mrs. Dill House  
Road 485  
Parcel: 15-016.00-058
Blackbird  
This 2 ½ story, 3 bay, gable-roofed frame house was built on a side passage plan. It has lintels over the windows, asbestos siding, and an addition on the west side. The concrete block foundation fills in the original brick piles on the core, suggesting this was perhaps a tenant house.

Theme: Agriculture  
Status: Potentially Eligible

ID # 402  
N-6317  
D. J. Cummings House  
West side of Paddock Rd (30), even with McQuail Rd (468)  
Parcel: 15-016.00-074
Blackbird  
Though similar to the other farmhouses in the area, the highlights of this home are its ornate double doorway with sidelights and a core cornice.

Theme: Agriculture  
Status: Potentially Eligible

ID # 460  
N-12636  
State Bridge #383
St. Georges  
This is a single span filled, solid spandrel concrete arch bridge. A concrete parapet ornamented with incised rectangles caps the arch. It was built in 1910 by Luten Bridge Co, a nationally significant company, and is the earliest known example of this type in Delaware.

Theme: Transportation, Engineering

ID # 466  
N-12644  
State Bridge 407A  
St. Georges  
An 8’ steel girder span bridge, altered in 1950.

Theme: Maritime, Transportation  
Status: Bridge
ID # 467  
N-12645  
Bridge  
Silver Lake Road  
Parcel: N/A; Silver Lake Road, southwest of Middletown, crossing Silver Lake  
St. Georges  
This bridge is steel girder span carrying two lanes of traffic. It was built on concrete abutments with U-shaped wing walls in 1931 and 1935.  
Theme: Transportation  
Status: Bridge

ID # 468  
N-12646  
Bridge 504  
Silver Lake Road  
Parcel: N/A  
Appoquinimink  
This double span concrete slab bridge built in 1939 incorporates a water control structure. It carries two lanes of traffic over concrete abutments with concrete wing walls and a concrete parapet.  
Theme: Transportation  
Status: Bridge

ID # 529  
N-12649  
Bridge #419  
Maryland Line Road  
Parcel: N/A  
Appoquinimink  
Built in 1928, this is a concrete rigid frame 2-lane bridge with concrete abutments and U-shaped concrete wing walls. A corbelled band defines the top of the fascia and wing walls.  
Theme: Transportation  
Status: Bridge

ID # 472  
N-12738  
Windsor  
1060 Dutch Neck Road  
Parcel: 13-004.00-003  
St. Georges  
Constructed circa 1760, this five-bay, two-story brick dwelling is an excellent example of the type of house built by the gentleman farmer in Delaware in the late 18th and early 19th centuries  
Theme: Agriculture  
Status: National Register – Dwellings of the Rural Elite in Central Delaware
ID # 883
N-12750
K. Johns House
Dutch Neck Road
Parcel: 13-004.00-005
St. Georges
This 2 story, 4 bay Flemish bond brick dwelling with 2 dormers has a 2 story, 2 bay brick and frame addition on the west end. On the front and rear facades is a water table with a beveled top course, and a 2-course belt course. The rear wall of the dwelling is worked in English bond. The gable is covered with wooden shingles.

Theme: Agriculture, Architecture
Status: Not Eligible

ID # 478
N-12752
William Bennett Farm
741 Dutch Neck Rd
Parcel: 13-004.00-001
St. Georges
Built in 1860, this home shows signs of the vernacular Greek Revival architectural movement.

Theme: Agriculture
Status: Potentially Eligible

ID # 790
N-12766
Mrs. Walker Estate
Paddock Road
Parcel: 15-016.00-086
Blackbird
This 2 ½ story, 5 bay, single pile frame dwelling has 2 interior chimneys. It has a 2 story rear ell addition and a third-period one story addition to the ell. There is a porch on the front elevation of the house and a screened porch on the ell. The dwelling is part of a farmstead.

Theme: Agriculture
Status: Potentially Eligible
The complex includes a 2½-story gable-roofed house with a 1½-story rear ell with dormer windows. There is one gable-end interior brick chimney on the main block and one on the ell. The entire dwelling is covered in blue and black composite siding. Obscured by the lush stands of trees, the complex also contains assorted outbuildings, including a long, low 1-story building with many windows constructed of wood.

Theme: Agriculture
Status: Potentially Eligible

This 2½ story, 5 bay square frame house has a pyramid-shaped roof with a central chimney and bay windows in front. It has front and side porches with columns and black shutters on the second floor. The dormer window atop the roof is a broken pediment with cornice return. Part of a modern farmstead, the house is covered with vinyl siding.

Theme: Architecture
Status: Potentially Eligible

Only the outbuildings surrounding the modern house retain historic integrity. There are two gable-roofed barns; several red, board and batten sheds, and a silo. All have aluminum roofs.

Theme: Agriculture
Status: Potentially Eligible
ID # 611
N-12778  A. Ennis Farm
Flemings Landing Road
Parcel: 15-008.00-047
Blackbird
Part of an agricultural complex, the dwelling is a 2 ½ story, 3 bay, double-pile home with a single gable-end interior chimney. A rear 2 story ell has been added. The home is covered with new siding and shingles. Among the numerous outbuildings are two large board and batten barns with smaller sheds, one of which is made of concrete block, and a corn crib. All outbuildings have aluminum roofs.

Theme: Agriculture
Status: Potentially Eligible

ID # 806
N-12783  E. Delaney House
Clayton Delaney Road (County Rd. 40)
Parcel: 15-025.00-035
Blackbird
This rectangular 2 ½ story, 3 bay frame Victorian dwelling dates from pre-1900. It now has three wings and is covered with green asbestos siding and a standing seam tin roof.

Theme: Architecture
Status: Potentially Eligible

ID # 809
N-12784  J. Reynolds House
Black Stallion Road
Parcel: 15-020.00-018
Blackbird
This 2 ½ story, 3 bay frame house features double gable-end interior chimneys. It is covered with light brown composite shingles and has a modern side porch addition. The dwelling is part of an agricultural complex.

Theme: Agriculture
Status: Potentially Eligible
ID # 805  
N-12790  
H. Netts House  
Harvey Straughn and Oak Hill School Roads  
Parcel: 15-020.00-006  
Blackbird  
This 2 ½ story, 3 bay dwelling on the south side of the intersection was built c. 1890. The frame dwelling features a right gable interior chimney and a rear addition. There are front porch and side porches. The roof has been recently replaced.

Theme: Agriculture  
Status: Potentially Eligible

ID # 901  
N-13313  
Agricultural Complex  
Road 435  
Parcel: 13-016.00-008  
St. Georges  
Barely visible from the road, there are several historical agricultural buildings surrounded by pastures and stands of mature trees.

Theme: Agriculture  
Status: Potentially Eligible

ID # 610  
N-13375  
Johnson Home Tenant Farm Outbuildings  
Cedar Swamp Road  
Parcel: 15-004.00-027  
Blackbird  
On this tenant complex stand five outbuildings: 1 board and batten barn with a wooden shingle roof covered with corrugated tin; 1 board and batten shed covered with a corrugated tin roof; and three smaller board and batten buildings with corrugated tin roofs, including one that appears to be an outhouse. All are unfinished and in dilapidated condition. See also N-4247 for the associated tenant house.

Theme: Agriculture, Settlement Patterns and Demographic Changes  
Status: Potentially Eligible

ID # 804  
N-13379  
Dwelling  
Harvey Straughn and Oak Hill School Roads  
Parcel: 15-020.00-094  
Blackbird  
A 2 ½ story, 2 bay dwelling on the north side of the intersection with a 2 ¼ story rear addition that also has a third period “lean-to” addition. The front porch is enclosed. The windows are new and the exterior has been resided.

Theme: Agriculture  
Status: Not Eligible

163
ID # 604
N-13381  Dwelling
Taylor’s Bridge Road
Parcel:  14-013.00-011
Appoquinimink
This dwelling is a 2 ½ story, 4 bay, single-pile frame house with a
center chimney and a corrugated shed roof.  It has a rear porch, is
covered in clapboard siding, and was probably built in the mid-1800s.
Theme:  Architecture
Status:  Potentially Eligible

ID # 916
N-13778  St. Andrews School Tenant House
Silver Lake Road
Parcel:  13-027.00-012
St. Georges
Set back from the road and obscured by plantings, this is a 1 ½ story, 5
bay dwelling with cream colored siding.
Theme:  Agriculture, Education
Status:  Potentially Eligible

ID # 917
N-13779  351 Silver Lake Road
Parcel:  14-006.24-010
Appoquinimink
A small summer home built in the 1930s, this is a small, white, one-
story, single pile dwelling on a masonry block foundation.  It has white
asbestos siding with green plank shutters and a green door surround.
The architrave above the door has dental molding.  The roof has asphalt
shingle over a plywood roof with an open cornice.  There is a screened-
in porch on the north side.
Theme:  Architecture
Status:  Potentially Eligible

ID # 918
N-13780  Willow Grove Mill Head Race
Silver Lake Road
Parcel:  N/A, Site is located at nexus of Silver Lake Road and Silver
Lake
St. Georges/
Appoquinimink
Part of a larger dam and water system, the head race runs perpendicular
to Silver Lake Road.
Theme:  Engineering
Status:  Potentially Eligible
ID # 919  
N-13781  Willow Grove Mill Dam  
Silver Lake Road  
Parcel: N/A, Site is located at nexus of Silver Lake Road and Silver Lake  
St. Georges/Appoquinimink  
Part of a larger water system, the dam has three systems. Two have wooden doors attached underneath the arches of the bridges over Silver Lake Road. The doors crank up and down on iron cranks and brackets. A third dam system is to the east of Silver Lake Road in front of a barn and works the same way, though the machinery is not attached to a bridge.  
Theme: Engineering, Agriculture  
Status: Potentially Eligible  

ID # 488  
N-13782  Willow Grove Mill Historic District  
Silver Lake Road  
Parcel: None  
St. Georges/Appoquinimink  
This historic district consists of groups of smaller homes clustered on both sides of the mill pond. One agricultural complex has a barn, sheds, and a larger home integrated with the head race.  
Theme: Engineering, Architecture  
Status: Potentially Eligible  

ID # 648  
N-14009  Culvert  
Flemings Landing Road, north of Saw Mill Branch Rd. intersection  
Parcel: N/A  
Blackbird  
Built in 1934, this culvert is the design of the Works Progress Administration.  
Theme: Transportation, Engineering  
Status: Bridge
Appendix 3

Demolished Properties in Designated Scenic Views

Entries include Map ID #, CRS number (i.e., N-XXX), county tax parcel (where available), and theme. Occasionally, a bit of information about the property is included.

ID # 4
N-103 J. West Farm Residence
Parcel: 14-011.00-002
Appoquinimink Theme: Agriculture

ID # 33
N-148 Hazel Glen – Keene Cleaver House Boyd’s Corner Rd. (Rd 420), near junction with Rd 2. Parcel: 13-009.00-161
St. Georges National Register Property Theme: Agriculture

ID # 50
N-574 Plank House
Parcel: 15-012.00-033
Blackbird Theme: Agriculture

ID # 884
N-3794 Archaeological Site Parcel: No Point data from SHPO
St. Georges

ID # 59
N-3797 Archaeological Site Parcel: 13-007.00-021
St. Georges

ID # 60
N-3798 Archaeological Site Parcel: 13-007.00-021
St. Georges
ID # 61
N-3799  Archaeological Site
Parcel: 13-008.00-023
St. Georges

ID # 62
N-3800  Archaeological Site
Parcel: 13-014.00-004
St. Georges

ID # 63
N-3801  Archaeological Site
Parcel: 13-014.00-004
St. Georges

ID # 64
N-3802  Archaeological Site
Parcel: 13-009.00-384
St. Georges

ID # 78
N-3820  Archaeological Site
Parcel: 14-007.00-003
Appoquinimink

ID # 79
N-3821  Archaeological Site
Parcel: 14-007.00-003
Appoquinimink

ID # 85
N-3831  Archaeological Site
Parcel: 14-007.00-028
Appoquinimink

ID # 86
N-3832  Archaeological Site
Parcel: 14-003.00-014
Appoquinimink

ID # 87
N-3833  Archaeological Site
Parcel: 14-003.00-002
Appoquinimink
The Southern New Castle County Scenic River and Highway Study

ID # 91
N-3837 Archaeological Site
Parcel: 14-004.00-010
Appoquinimink

ID # 92
N-3838 Archaeological Site
Parcel: 14-004.00-010
Blackbird

ID # 94
N-3840 Archaeological Site
Parcel: 15-002.00-002
Blackbird

ID # 95
N-3841 Archaeological Site
Parcel: 15-009.00-003
Blackbird

ID # 96
N-3842 Archaeological Site
Parcel: 15-013.00-002
Blackbird

ID # 985
N-3843 Archaeological Site
Parcel: 14-018.00-021
Appoquinimink

ID # 97
N-3844 Archaeological Site
Parcel: 14-125.00-014
Appoquinimink

ID # 98
N-3845 Archaeological Site
Parcel: 15-010.00-116
Blackbird

ID # 99
N-3846 Archaeological Site
Parcel: 15-010.00-080
Blackbird
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Type</th>
<th>Parcel Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Blackbird</td>
<td>Archaeological Site</td>
<td>15-016.00-097</td>
</tr>
<tr>
<td>102</td>
<td>Blackbird</td>
<td>Archaeological Site</td>
<td>15-017.00-006</td>
</tr>
<tr>
<td>103</td>
<td>Blackbird</td>
<td>Archaeological Site</td>
<td>15-012.00-032</td>
</tr>
<tr>
<td>106</td>
<td>Blackbird</td>
<td>Archaeological Site</td>
<td>15-026.00-081</td>
</tr>
<tr>
<td>114</td>
<td>Liston Farm (Coleman Farm/Colonial Trader Antiques)</td>
<td>Farm</td>
<td>14-003.00-009</td>
</tr>
<tr>
<td>116</td>
<td>Joseph Ashton House</td>
<td>Residence</td>
<td>13.010.00-006</td>
</tr>
<tr>
<td>123</td>
<td>Blackbird Landing</td>
<td></td>
<td>14-017.00-003</td>
</tr>
<tr>
<td>142</td>
<td>Archaeological Site</td>
<td></td>
<td>14-018.00-005</td>
</tr>
<tr>
<td>ID #</td>
<td>Description</td>
<td>Location</td>
<td>Theme</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------</td>
<td>------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>152</td>
<td>S. Merritt House</td>
<td>Blackbird</td>
<td></td>
</tr>
<tr>
<td>777</td>
<td>W. Campbell House</td>
<td>Blackbird</td>
<td></td>
</tr>
<tr>
<td>538</td>
<td>Wiggins Mill Pond Bridge</td>
<td>Appoquinimink</td>
<td>Transportation</td>
</tr>
<tr>
<td>176</td>
<td>J. W. Callahan House</td>
<td>St. Georges</td>
<td>Agriculture</td>
</tr>
<tr>
<td>178</td>
<td>Moody Clayton House</td>
<td>St. Georges</td>
<td>Agriculture</td>
</tr>
<tr>
<td>179</td>
<td>J. Armbruster House</td>
<td>St. Georges</td>
<td>Agriculture</td>
</tr>
</tbody>
</table>
The Southern New Castle County Scenic River and Highway Study

ID # 202
N-5174 Phillips Agricultural Complex Site
Farm
Parcel: 13-019.00-061
St. Georges
Theme: Agriculture

ID # 213
N-5187 Oak Hollow (L. G. Clark)
Farm/Residential
Parcel: 13-003.00-001
St. Georges
Theme: Agriculture

ID # 214
N-5188 W. Lore House ("Indianola")
Farmhouse
Parcel: 13-003.00-001
St. Georges
Theme: Agriculture

ID # 237
N-5212 J. Shallcross House
House
Parcel: 13-023.00-007
St. Georges
Theme: Agriculture

ID # 238
N-5213 Willet House
Residence
Parcel: 13-029.00-010
St. Georges
This house was surrounded by an old and valuable boxwood hedge.
Theme: Agriculture

ID # 241
N-5218 Indian Ridge
Residence
Parcel: 13-022.00-003
St. Georges
Theme: Agriculture

This house was surrounded by an old and valuable boxwood hedge.
ID # 254  
N-5232  
J. P. Cochran House (“Prairie”)  
Residence  
Parcel: 13-016.00-004  
St. Georges  
Theme: Agriculture

ID # 896  
N-5239  
J. P. Cochran House (“White Plains”)  
Plantation tenant house  
Parcel: 13-012.10-052  
St. Georges  
Theme: Agriculture

ID # 272  
N-5270  
D. Corbitt Site  
Farm  
Parcel: 14-008.00-002  
Appoquinimink  
Theme: Agriculture

ID # 275  
N-5833  
“Middle Six”  
Tenant farm house  
Parcel: 14-014.00-002  
Appoquinimink  
According to an inscription on the porch, it was built by William Wilson in 1854.  
Theme: Agriculture

ID # 276  
N-5835  
Dwelling  
Parcel: 14-014.00-002  
Appoquinimink  
Theme: Agriculture

ID # 289  
N-5858  
House  
Farm  
Parcel: 14-016.00-143  
Appoquinimink  
Theme: Agriculture

ID # 295  
N-5865  
Mathews  
Parcel: 14-012.00-098  
Appoquinimink  
Theme: Agriculture
<table>
<thead>
<tr>
<th>ID #</th>
<th>Description</th>
<th>Location</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>D. Corbit House Farm</td>
<td>Appoquinimink</td>
<td>Agriculture</td>
</tr>
<tr>
<td>303</td>
<td>Lee Chapel Methodist Church Dining Hall Church building</td>
<td>Appoquinimink</td>
<td>Religion</td>
</tr>
<tr>
<td>304</td>
<td>Lee Chapel Methodist Church Building</td>
<td>Appoquinimink</td>
<td>Religion</td>
</tr>
<tr>
<td>319</td>
<td>Duker House Chicken farm</td>
<td>Appoquinimink</td>
<td>Agriculture</td>
</tr>
<tr>
<td>324</td>
<td>Williams House Farmhouse</td>
<td>Appoquinimink</td>
<td>Agriculture</td>
</tr>
<tr>
<td>326</td>
<td>Wilson Tenant House Tenant House</td>
<td>Appoquinimink</td>
<td>Agriculture</td>
</tr>
<tr>
<td>355</td>
<td>House – Rte 13 Farm</td>
<td>Blackbird</td>
<td>Agriculture</td>
</tr>
</tbody>
</table>
ID # 367  
N-6241  
House, Rd 47  
Farm?  
Parcel: 14-018.00-023  
Appoquinimink  
Theme: Agriculture

ID # 376  
N-6272  
Mrs. Buchanan House (1893)  
Farm  
Parcel: 15-022.00-188  
Blackbird  
Theme: Agriculture

ID # 386  
N-6285  
D. Staats House  
Chicken Farm  
Parcel: 15-011.00-027  
Blackbird  
Theme: Agriculture

ID # 831  
N-7837  
D.J. Cummings House  
Parcel: 15-022.00-077  
Blackbird  
Theme: Agriculture

ID # 796  
N-8849  
Archaeological Site  
Parcel: 15-017.00-009  
Blackbird

ID # 408  
N-9559  
J. Donaho House  
Farm  
Parcel: 15-022.00-187  
Blackbird  
Theme: Agriculture

ID # 421  
N-9612  
Archaeological Site  
Parcel: 14-007.00-003  
Appoquinimink
<table>
<thead>
<tr>
<th>ID</th>
<th>N-</th>
<th>Description</th>
<th>Parcel</th>
</tr>
</thead>
<tbody>
<tr>
<td>422</td>
<td>9613</td>
<td>Archaeological Site</td>
<td>14-007.00-003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>424</td>
<td>9615</td>
<td>Archaeological Site</td>
<td>14-007.00-003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>494</td>
<td>9662</td>
<td>Archaeological Site</td>
<td>14-002.40-087</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>526</td>
<td>9665</td>
<td>Archaeological Site</td>
<td>14-003.00-014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>525</td>
<td>9666</td>
<td>Archaeological Site</td>
<td>14-003.00-014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>492</td>
<td>9667</td>
<td>Archaeological Site</td>
<td>14-002.00-003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>493</td>
<td>9668</td>
<td>Archaeological Site</td>
<td>14-002.00-002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>524</td>
<td>9669</td>
<td>Archaeological Site</td>
<td>14-003.00-014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>658</td>
<td>9742</td>
<td>Archaeological Site</td>
<td>14-023.00-034</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appoquinimink</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>N-9743</td>
<td>Archaeological Site</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>--------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-023.00-037</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9744</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-023.00-003</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9745</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-023.00-003</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9746</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-023.00-047</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9759</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-016.00-299</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9760</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-016.00-259</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9761</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-016.00-303</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9762</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-016.00-303</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>N-9763</th>
<th>Archaeological Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appoquinimink</td>
<td>Parcel: 14-016.00-142</td>
</tr>
</tbody>
</table>
The Southern New Castle County Scenic River and Highway Study

ID # 646  
N-9764  
Archaeological Site  
Parcel: 14-016.00-142  
Appoquinimink

ID # 647  
N-9765  
Archaeological Site  
Parcel: 14-016.00-142  
Appoquinimink

ID # 630  
N-9770  
Archaeological Site  
Parcel: 14-017.00-003  
Appoquinimink

ID # 631  
N-9771  
Archaeological Site  
Parcel: 14-017.00-003  
Appoquinimink

ID # 632  
N-9772  
Archaeological Site  
Parcel: 14-016.00-146  
Appoquinimink

ID # 633  
N-9773  
Archaeological Site  
Parcel: 14-016.00-146  
Appoquinimink

ID # 634  
N-9774  
Archaeological Site  
Parcel: 14-016.00-146  
Appoquinimink

ID # 635  
N-9775  
Archaeological Site  
Parcel: 14-016.00-146  
Appoquinimink

ID # 636  
N-9776  
Archaeological Site  
Parcel: 14-016.00-146  
Appoquinimink
ID # 637  
N-9777  
Archaeological Site  
Parcel: 14-017.00-003  
Appoquinimink

ID # 638  
N-9778  
Archaeological Site  
Parcel: 14-017.00-003  
Appoquinimink

ID # 639  
N-9779  
Archaeological Site  
Parcel: 14-017.00-003  
Appoquinimink

ID # 640  
N-9780  
Archaeological Site  
Parcel: 14-017.00-003  
Appoquinimink

ID # 601  
N-9803  
Archaeological Site  
Parcel: 14-016.00-147  
Appoquinimink

ID # 599  
N-9804  
Archaeological Site  
Parcel: 14-016.00-147  
Appoquinimink

ID # 600  
N-9805  
Archaeological Site  
Parcel: 14-016.00-147  
Appoquinimink

ID # 598  
N-9806  
Archaeological Site  
Parcel: 14-016.00-147  
Appoquinimink

ID # 597  
N-9807  
Archaeological Site  
Parcel: 14-016.00-148  
Appoquinimink
ID # 754  Archaeological Site  Parcel: 15-015.00-004  Blackbird
ID # 779  Archaeological Site  Parcel: 15-015.00-019  Blackbird
ID # 780  Archaeological Site  Parcel: 15-015.00-019  Blackbird
ID # 781  Archaeological Site  Parcel: 15-015.00-019  Blackbird
ID # 782  Archaeological Site  Parcel: 15-016.00-020  Blackbird
ID # 783  Archaeological Site  Parcel: 15-016.00-020  Blackbird
ID # 784  Archaeological Site  Parcel: 15-016.00-020  Blackbird
ID # 785  Archaeological Site  Parcel: 15-016.00-020  Blackbird
ID # 786  Archaeological Site  Parcel: 15-016.00-020  Blackbird
ID # 731
N-9849 Archaeological Site
Parcel: 15-010.00-080
Blackbird

ID # 775
N-9853 Archaeological Site
Parcel: 15-011.00-009
Blackbird

ID # 776
N-9854 Archaeological Site
Parcel: 15-011.00-009
Blackbird

ID # 774
N-9855 Archaeological Site
Parcel: 15-011.00-009
Blackbird

ID # 773
N-9856 Archaeological Site
Parcel: 15-011.00-009
Blackbird

ID # 650
N-12401 Archaeological Site
Parcel: No Point data from SHPO
Blackbird

ID # 456
N-12521 Vance Neck Tenant House site
Archaeological Site of dwelling
Parcel: 13-014.00-015
St. Georges
Theme: Agriculture

ID # 457
N-12522 Silver Run Site
Archaeological Site
Parcel: 13-014.00-015
St. Georges

ID # 458
N-12523 Archaeological Site
Parcel: 13-014.00-008
St. Georges
ID # 459  
N-12524 Archaeological Site  
Parcel: 13-014.00-008  
St. Georges

ID # 792  
N-12653 Bridge #456  
Bridge  
Parcel: Intersection of Walker School Road and Sawmill Branch  
Blackbird  
Theme: Transportation

ID # 608  
N-12691 Archaeological Site  
Parcel: 14-017.00-050  
Appoquinimink

ID # 607  
N-12692 Archaeological Site  
Parcel: 14-017.00-050  
Appoquinimink

ID # 606  
N-12693 Archaeological Site  
Parcel: 14-017.00-062  
Appoquinimink

ID # 620  
N-12704 Archaeological Site  
Parcel: 15-007.00-013  
Blackbird

ID # 619  
N-12705 Archaeological Site  
Parcel: 15-008.00-002  
Blackbird

ID # 618  
N-12706 Archaeological Site  
Parcel: 15-008.00-002  
Blackbird
<table>
<thead>
<tr>
<th>ID</th>
<th>Parcel Numbers</th>
<th>Location</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>889</td>
<td>13-004.00-007</td>
<td>St. Georges</td>
<td>Agriculture</td>
</tr>
<tr>
<td>613</td>
<td>15-008.00-006</td>
<td>Blackbird</td>
<td>Agriculture</td>
</tr>
<tr>
<td>810</td>
<td>15-020.00-018</td>
<td>Blackbird</td>
<td>Agriculture</td>
</tr>
<tr>
<td>905</td>
<td></td>
<td>St. Georges</td>
<td>Archaeology</td>
</tr>
<tr>
<td>515</td>
<td>14-003.00-013</td>
<td>Appoquinimink</td>
<td>Archaeology</td>
</tr>
<tr>
<td>527</td>
<td>14-003.00-014</td>
<td>Appoquinimink</td>
<td>Archaeology</td>
</tr>
<tr>
<td>514</td>
<td>14-003.00-013</td>
<td>Appoquinimink</td>
<td>Archaeology</td>
</tr>
<tr>
<td>906</td>
<td>14-003.00-008</td>
<td>Appoquinimink</td>
<td>Archaeology</td>
</tr>
</tbody>
</table>
ID # 522  
N-12927  
Archaeological Site  
Parcel: 14-003.00-008  
Appoquinimink

ID # 523  
N-12929  
Archaeological Site  
Parcel: 14-003.00-009  
Appoquinimink

ID # 602  
N-13380  
Dwelling  
Parcel: No point data from SHPO  
Appoquinimink  
Theme: Agriculture

ID # 605  
N-13387  
Dwelling  
Parcel: 14-013.00-008  
Appoquinimink  
Theme: Agriculture

ID # 537  
N-13548  
Wiggins Mill/Bridge #424 Project  
Archaeological Site/Bridge  
Parcel: 14-011.00-012  
Appoquinimink  
Theme: Agriculture, Transportation

ID # 539  
N-13549  
Prehistoric Site/Bridge #424 Project  
Archaeological Site/Bridge  
Parcel: 14-011.00-012  
Appoquinimink  
Theme: Transportation

ID # 910  
N-13602  
Bridge #513  
Bridge  
Parcel: Intersection of St. Augustine Road (Rte 9) and Augustine Creek  
St. Georges  
Theme: Transportation
The Southern New Castle County Scenic River and Highway Study

ID # 652
N-13621 Liston Point Farm site
Archaeological Site of Farm
Parcel: No point data from SHPO
Blackbird Theme: Agriculture
Scenic Roads in Southern New Castle County
Methodology for Designation and Recommended Network

Scenic roads are defined as roads having a high degree of natural beauty and historic or cultural value. Although many states have adopted scenic roads programs, Delaware had not officially adopted its program during the preparation of this study. As such, criteria used for selection were taken in part from the FHWA publication, *Scenic Byways* and adapted to the local context. Designation, therefore, involved the degree to which the following criteria or attributes apply to roads in the study area:

1) Scale of Roads – Size of roads and their dimensions, coverings and shoulders, etc.

2) Characteristics of Roads – Changes with terrain and topography, whether the road is “windy,” etc.

3) Scenic Accents or Vistas along Roads – Comparison to scenic inventory or documented scenic views.

4) Historic Characteristics of, or along, Roads – Existence of covered bridges, stone bridges or walls, historic houses or buildings, etc.

5) Natural resources and/or habitat area/ ecosystems in close proximity to Roads – Existence of watercourses, wetlands, riparian habitat, geologic formations, woodlands, wildlife habitat, etc.

6) Recreational activities along or adjacent to Roads – Existence of private, municipal, county, or state parks, trails, boat launches, wildlife viewing areas, golf courses, low impact recreation fields, etc.

Listed below are the roads or segments of roads determined to be scenic, including the selection criteria that apply to it. Following this list is a brief description of each road and its positive and/or negative characteristics.

<table>
<thead>
<tr>
<th>Location/ Road Segment</th>
<th>Applicable Criteria (Attributes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Reedy Point Rd./Liberty Street/ DE 9</td>
<td>1,2,3,5,6</td>
</tr>
<tr>
<td>2) Dutch Neck Road (along canal)</td>
<td>1,2,3,5</td>
</tr>
<tr>
<td>3) Dutch Neck Road</td>
<td>1,4</td>
</tr>
</tbody>
</table>
4) St. Augustine Road/ DE 9  1,2,3,5,6
5) Silver Run Road/ DE 9  1,2,3,5
6) Vance Neck Road (two segments)  1,3,5
7) Silver Run Road/ DE 9 (segment)  1,5
8) Old Corbit Road (segment)  2,3
9) Old State Road (segment)  1,2,3,4,5
10) Staves Landing Road  1,2,3,5,6
11) Taylors Bridge Road (segment)  2,3,4,5
12) Union Church Road (segment)  1,2
13) Cedar Swamp Road  1,2,3,4,5
14) Chop Tank Road (segment)  2,3,4
15) Silver Lake Road  1,2,3,5
16) Noxontown Road (segments)  2,3,4,5,6
17) St. Ann’s Church Road  2,3,5
18) Wiggins Mill Road (segment)  2,3,5
19) Maryland Line Road (segment)  1,2,5
20) Green Giant Road (segment)  1,2,3
21) Dexter Corner Road  2,3,5
22) Blackbird Forest Road (segment)  1,2,5
23) Oliver Guessford Road  1,2,3,5
24) Lloyd Guessford Road  2,3,5
25) Vandyke Greenspring Road (segments)  1,2,3,5,6
26) Vandyke Maryland Road (segments)  1,2,3,5
27) Saw Mill Road  2,3,5,6
28) McKays Corner Road  1,2,3,5
29) Oak Hill School Road  1,2,3,5
30) Saltene Road  1,2,5
31) Black Stallion Road (segment)  2,3,5
32) Alley Mill Road (segment)  2,3,4,5
33) Alabam Road  2,3,4,5
34) McQuail Road  2,3,5
35) Walker School Road  2,3,4
36) Eagles Nest Landing Road (segments)  1,2,3,4,5
37) Paddock Road (segments)  2,3,4,5
38) Gum Bush Road (segments)  1,2,3,5
39) Gardner Road (segment)  2,5
40) Deakyneville Road  1,2,3,5,6
41) Collins Beach Road  1,2,3,5,6
42) Thoroughfare Neck Road  1,2,3,5
43) Flemings Landing Road  2,3,4,5
The following is a brief description of each road and its positive and/or negative characteristics.

1) Reedy Point Road/Liberty Street/ DE 9 (segment) – very scenic north of Port Penn Road to C&D Canal; broad expansive views of marshland (west and east) and the Delaware River (east); only distraction is a stretch of guard rail uncharacteristic for such a scenic viewshed.

2) Dutch Neck Road (along canal) – stretch along canal is quite scenic with the exception of power lines and refining operations to the northwest; broad expansive views across C&D Canal.

3) Dutch Neck Road (segment) – small, partially wooded stretch northeast of Holland Court; historic structure; one drawback is small trash dumping area.

4) St. Augustine Road/ DE 9 – scenic section along Delaware River that includes views of a tidal marsh on the west side of the road; the Salem Nuclear Power Plant and a maintenance building are intrusions but a boat launch and public beach contribute to roads’ appeal.

5) Silver Run Road/ DE 9 – segment between Bayview Road and Vance Neck Road; extensive views of Silver Run Inlet and associated natural areas.

6) Vance Neck Road (two segments) – these segments have broad, expansive views of fields and meadows, as well as a portion of the Silver Run Inlet; the remainder of the road is less scenic due to the encroachment of residential development.

7) Silver Run Road/ DE 9 (segment) – small segment south of Vance Neck Road; partial views of tidal marsh and Appoquinimink River.

8) Old Corbit Road (segment) – portion of road extending from Old State Road near Odessa to bend in road: partial views of Appoquinimink River and portions of Odessa along curving road.

9) Old State Road (segment) - small segment of road from the center of Odessa to the intersection of Old Corbit Road; spectacular views of the Appoquinimink River and its associated habitat area, as well as the outskirts of Odessa.

10) Staves Landing Road – entire road from Taylors Bridge Road to dead-end; broad, expansive views at western end leading to the enclosed canopy and wetland habitat of the Cedar Swamp; quite pristine and natural.
11) Taylors Bridge Road (segment) – segment from Fieldsboro Road to Flemings Landing Road; winding road with extensive scenic views of open land and Blackbird Creek; becomes Cedar Swamp Road.

12) Union Church Road (segments) – two segments on opposite sides of Blackbird Landing Road; partial views of Blackbird Creek, open land and woodlands.

13) Cedar Swamp Road - entire road from intersection of Taylors Bridge Road and Flemings Landing Road to dead-end; extensive views of Blackbird Creek tributary and Cedar Swamp.

14) Chop Tank Road (segment) – portion between Bunker Hill Road and Bohemia Mill Road; broad, expansive views of open land, agricultural fields and historic farm structures.

15) Silver Lake Road - majority of road between Main Street and Noxontown Road; east side of road tree lined with views of open land to the west; significant views of Silver Lake.

16) Noxontown Road (segments) – large segments between Summit Bridge Road and Money Road; broad, open vistas with significant views of Noxontown Lake.

17) St. Ann’s Church Road – portion between Wiggins Mill Road and Summit Bridge Road; views of open land and agricultural fields with wooded hedgerows as backdrop.

18) Wiggins Mill Road (segment) – portion between Moore Road and Townsend; expansive views of open land and agricultural activities on both sides of the road; small tributary pond that flows to Noxontown Lake is considered a scenic accent.

19) Maryland Line Road (segment) – segment between Levels Road and Green Giant Road; views of swampland/wetlands associated with the Sassafras River; major intrusion is the power line running along the Delaware/Maryland border.

20) Green Giant Road (segment) – small segment between Dogtown Road and Maryland border; broad, expansive views of open land and Sassafras River tributary across both sides of road.

21) Dexter Corner Road – three segments between Grears Corner Road and Harvey Straughn Road; views of open land, agriculture, and tributary streams of the Blackbird Creek.

22) Blackbird Forest Road (segments) – two segments between Blackbird Greenspring Road and Clayton Delaney Road; scale and characteristics of road segments within wooded road corridors contribute to scenic quality; roadside residential development detracts from other portions of the road.
23) Oliver Guessford Road – entire road segment from Blackbird Forest Road to Dexter Corner Road; bounded by woodlands on the north side of the road with expansive views of open land and Blackbird Creek tributary on south side of road.

24) Lloyd Guessford Road - entire road segment between Blackbird Station Road and Vandyke Greenspring Road; expanded views bounded by woodlands and Cypress Branch road crossing contribute to scenic characteristics.

25) Vandyke Greenspring Road (segments) – five segments between Maryland state line and Alley Mill Road; significant scenic characteristics including wooded road corridors, expansive views and topographic diversity; roadside residential development detracts from otherwise scenic quality of entire road.

26) Vandyke Maryland Road (segment) – segment west of Vandyke Greenspring Road; wooded road corridor on north side of road with vistas to the south.

27) Saw Mill Road (segments) – two segments between Maryland state line and Vandyke Greenspring Road; partial views bounded by woodlands on both sides of the road.

28) McKays Corner Road – entire length of road from Saw Mill Road to Maryland State border; scenic vistas partially bounded by woodlands and a tributary of the Cypress Branch.

29) Oak Hill School Road – segment between Black Stallion Road and Harvey Straughn Road; combination of scenic viewsheds and wooded road corridor.

30) Saltere Road – segments between Oak Hill School Road and Kent County line; scenic wooded road corridors.

31) Black Stallion Road (segment) – segment between Oak Hill School Road and Clayton Delaney Road; combination of scenic viewsheds to the west bounded by scenic road corridor and Smyrna River tributary to the east.

32) Alley Mill Road (segment) – segment between Vandyke Greenspring Road and Clayton Delaney Road; broad, expansive views associated with Smyrna River tributary.

33) Alabam Road – portion between McQuail Road and Brick Store Landing Road; broad, expansive views of Smyrna River tributaries and open land.

34) McQuail Road – segment between Alabam Road and Eagles Nest Landing Road; winding road with expansive views of Smyrna River and open land.
35) Walker School Road (segments) – two portions of road between Black Diamond Road and Gum Bush Road; expansive views of open land/ agriculture and Smyrna River tributary.

36) Eagles Nest Landing Road (segments) – segment west from McQuail Road; characteristic scale of road with expansive views of open land associated with a riverine ecosystem.

37) Paddock Road (segments) – three segments between Eagles Nest Landing Road and Flemming Landing; scenic views punctuated by open land affiliated with the Smyrna River and its tributaries.

38) Gum Bush Road (segments) – three segments between Rt. 1 and Walker School Road; scale of road with expansive views of Blackbird River and its tributaries.

39) Gardner Road (segment) – segment between Paddock Road and Walker School Road; small road with scenic Smyrna River tributary stream crossing.

40) Deakyneville Road – entire segment between Paddock Road and Collins Beach Road; expansive views of Smyrna River estuary.

41) Collins Beach Road - entire segment from Deakyneville Road to the Delaware River; expansive views of Smyrna River estuary and Delaware River.

42) Thoroughfare Neck Road – entire segment between Collins Beach Road and Flemings Landing Road; expansive views of Cedar Swamp estuary; substation detracts from scenic quality at junction of Flemings Landing Road.

43) Flemings Landing Road – portion between Saw Mill Branch Road and Cedar Swamp Road; broad, expansive views of Cedar Swamp to the east and open land and woodlands associated with the Appoquinimink River to the west; historic school contributes to character of road near Cedar Swamp Road; high tension towers detract from lower portion of road near Saw Mill Branch Road.
Appendix 5 – Selected References


A Preliminary Classification of the Natural Communities of Delaware (Draft), Keith Clancy, State of Delaware, Department of Natural Resources and Environmental Control, Division of Fish and Wildlife, Delaware Natural Heritage Program, Dover, DE, 1995.


Delaware Department of Natural Resources and Environmental Control (DNREC), State of Delaware Combined Watershed Assessment Report (305(b)) and Determination of the Clean Water Act Section 303(d) List of waters Needing TMDLs, 2004.

Delaware Department of Natural Resources and Environmental Control (DNREC), Surface Water Quality Standards, 2004.


Delaware Source Water Assessment Plan, Delaware Department of Natural Resources and Environmental Control (DNREC), October 1999.


Farmland Preservation in the M-O-T Area, Theresa C. Thomas and John Mackenzie, Department of Food and Resource Economics and College of Agricultural Sciences, University of Delaware, Newark, DE, 1996.
Federal Highway Administration (FHWA) National Scenic Byway Grant Application System, www.bywaysonline.org


New Castle County Conservation Strategy, New Castle County Department of Land Use & Gaadt Perspectives, LLC, 2002.


Rare Native Plants of Delaware, William McAvoy, State of Delaware, Department of Natural Resources and Environmental Control, Division of Fish and Wildlife, Delaware Natural Heritage Program, Dover, DE, 1995.


Rebecca Siders, A Cultural Resource Survey of the Proposed Route 301 Corridor, New Castle County, Delaware, Center for Historic Architecture and Engineering, pp. 32 –33.


Southern New Castle County Land Use Study, New Castle County, Department of Planning, New Castle County, DE, 1996.


The Historic Context Master Reference and Summary, Center for Historic Architecture and Engineering, Bernard Herman and Rebecca Siders et al., 1989, pp 19-36.

The Red Clay Valley Scenic River and Highway Study, New Castle County Department of Planning in conjunction with the Environmental Management Center, Brandywine Conservancy, August 1989.


2007 Comprehensive Development Plan Update, New Castle County Department of Land Use.


Unified Development Code (Chapter 40), New Castle County, Delaware, December 1997, as amended.
