

Kent County and Sussex County Phase II, Tier II MS4 Justification

Introduction

The State of Delaware National Pollutant Discharge Elimination Systems (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) Tier II General Permit will provide coverage for those entities that have been identified as small MS4s under the criteria provided in 40 C.F.R. 122.32 and do not currently maintain coverage under an individual Phase II MS4 permit (see Attachment-A for table of newly identified MS4s). Kent County and Sussex County are not included as an identified MS4 within Attachment-A. Of the 14 newly identified MS4s, four meet the waiver criteria as outlined in (DNREC, 2022). Again, Kent County and Sussex County are not identified as a new MS4, nor are they listed as a waived entity.

Should Kent County and Sussex County be listed as an identified MS4?

To answer that question this document will outline the definition of a MS4, the Phase II Final Rule, and if the counties meet the waiver criteria, objectively determining if Kent County and Sussex County meet the necessary elements to be identified as a new MS4. If the counties should meet the regulatory requirements under the NPDES Phase II MS4 Tier II General Permit, then the Delaware Department of Natural Resources and Environmental Control (DNREC) must either include them on the newly identified MS4 list (Attachment- A) or withhold implementation of the NPDES Phase II MS4 Tier II Permits until DNREC can justify their exclusion.

Definition of MS4

A MS4 is defined in §122.26(b)(8)(i), *“roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains owned or operated by a State, city, town, borough, county, parish, district, association, or other public body having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes”*. The word county is underlined to emphasize counties are considered MS4s. This specific language defining a MS4 is within the DNREC draft NPDES Phase II MS4 Tier II General Permit.

Using Kent County as an example: The amount of stormwater infrastructure under Kent County’s jurisdiction is unknown since the data is not publicly available. However, Kent County owned property is publicly available. Over 342 acres of land is directly owned, maintained, or operated by Kent County within the 2010 urbanized area. It is known there are catch basins, curbs, gutters, ditches, man-made channels, or storm drains within those 342 acres. They also have jurisdiction over the private roads, and to some degree the DelDOT maintained subdivision roads within their limits, which also contain catch basins, curbs, gutters, ditches, man-made channels, or storm drains. Therefore, Kent County is a MS4, and the same logic can be made for Sussex County. However, just because an entity meets the definition of an MS4 does not mean they meet the regulatory threshold for a NPDES Phase II MS4 Permit. The other criteria that must be met is meeting the Phase II Final Rule.

Phase II Final Rule

The Phase II Final Rule automatically covers on a nationwide basis all small MS4s located in “urbanized areas” as defined by the Bureau of the Census (unless waived by the NPDES permitting authority), and

on a case-by-case basis those small MS4s located outside of urbanized areas that the NPDES permitting authority designates (EPA, 2000). This explains why 14 new MS4s were identified as MS4s under the 2010 decennial census and four of those met the waiver criteria. The United States Census Bureau provides Urbanized Area Reference Maps to determine which entities are within an urbanized area (United States Census Bureau, 2021 [see Attachment-B]). Per the Urbanized Area map in Attachment-B, areas of Kent County and Sussex County (areas outside of municipal boundaries) are included within the urbanized area, meeting the Phase II Final Rule.

Waiver Criteria

Even if an entity is designated as a small MS4, they remain eligible for a waiver. Two waiver options are available within the draft NPDES Phase II MS4 Tier II General Permit if discharges do not cause, or have the potential to cause, water quality impairment.

Currently, waivers for the counties are a moot point. DNREC did not identify Kent County or Sussex County as a designated new MS4; therefore, the counties are not applicable for waiver criteria. Furthermore, DNREC did not include either county as an entity analyzed under DNREC's waiver criteria (DNREC, 2022). However, it assumed with high probability that if the counties were named as a new MS4 that they would not meet the waiver requirements set forth in the draft permit.

Statistics

Within the 2010 urbanized area, approximately 64% of the permitted area in Kent County falls outside of municipal boundaries and 67% of the permitted area in Sussex County falls outside of municipal boundaries. The areas outside of municipal boundaries are subject to the jurisdiction of either Kent County or Sussex County as applicable. Reference the enclosed maps in Appendix B.

Per the 2010 urbanized areas, in Kent County, approximately 21% of all roadways within the urbanized area are designated private, and in Sussex County approximately 27% are private, as shown in Appendix C. These roadways were not designed and built to DelDOT standards and were therefore not accepted into DelDOT's roadway inventory, but were approved by the counties¹. The percentage of private roadways is approximately the same percentage as the collective municipally maintained roadways within the 2010 urbanized areas (23% in Kent County and 27% in Sussex County). Reference the enclosed exhibits showing example areas of private roadways in Appendix D.

Besides the private roadways that exist with non-municipal portions of the 2010 urbanized area, there are also subdivision roads that are maintained by DelDOT because they were built to DelDOT's standards, but were approved for development by either Kent County or Sussex County. These roadways, classified as "suburban roads maintained by State", make up approximately 19% of Kent County and 10% of Sussex County roadways, as shown in Appendix C. Using the NPDES Phase I MS4 permit as a set precedent, the post-construction stormwater management of these systems are not the responsibility of DelDOT, and should fall to counties as it does with New Castle County.

¹ There may be some private subdivisions within municipalities, but the majority are located in non-municipal areas, or areas under the jurisdiction of the counties.

For the Dover Urbanized Area², the non-municipal urbanized area of Kent County showed the highest growth rate from 2000 to 2010 at 46%. Out of all Phase II permittees, this growth rate was only surpassed by the Town of Middletown. In addition, the non-municipal urbanized area of Kent County accounted for 74% of the population change within the expanded Dover Urbanized Area from 2000 to 2010. Looking at the 2010 census data, both the non-municipal urbanized areas of Kent County and Sussex County have the highest population within their respective urbanized areas: Kent County makes up 55% of the Dover Urbanized Area population and Sussex County makes up 57% of the Salisbury Urbanized Area population. The non-municipal urbanized area of Kent County also has the highest 2010 population out of all the Phase II areas, at 60,991. The second closest in population is the City of Dover at 36,047, followed by the City of Newark with 31,354, both nearly half of the non-municipal urbanized areas of Kent County. Reference Appendix E for Phase II Population Data.

Conclusion

Kent County and Sussex County meet the definition of a MS4, the Phase II Final Rule, are not included within the DNREC waiver analysis, and statistically are responsible for a sizable portion of the 2010 urbanize area. Therefore, both Kent County and Sussex County should be designated as a newly identified MS4. Precedent for Counties being regulated under a NPDES MS4 Permit in the state of Delaware exists. New Castle County is currently a co-permittee with the Delaware Department of Transportation under a NPDES Phase I MS4 Permit. It is unclear why DNREC is excluding Kent County and Sussex County from the regulations, but justification is warranted to ensure equitable treatment under the law.

² The subsequent statistics comparing 2010 census data to 2000 census data exclude the non-municipal urbanized Sussex County areas within the Salisbury Urbanized Area, as that designation did not extend into Delaware per the 2000 census data.

References

- Delaware Department of Natural Resources and Environmental Control (DNREC). 2022. General Permit for Stormwater Discharges From New Small Municipal Separate Storm Sewer Systems In The State of Delaware. Phase II MS4 Tier II General Permit Fact Sheet, pg. 12. <https://documents.dnrec.delaware.gov/wr/npdes/2022-Draft-MS4-Phase-II-Tier-II-Fact-Sheet.pdf>
- Environmental Protection Agency (EPA). 2000a. Stormwater Phase II Final Rule. Office of Water. EPA 833-F-00-002, Fact Sheet 2.0. <https://www.epa.gov/sites/default/files/2015-11/documents/fact2-0.pdf>
- Environmental Protection Agency (EPA). 2000b. Stormwater Phase II Final Rule. Office of Water. EPA 833-F-00-003, Fact Sheet 2.1. <https://www.epa.gov/sites/default/files/2015-11/documents/fact2-2.pdf>
- United States Census Bureau. 2021. 2010 Census Urban Area Reference Maps. Online. Date Accessed: June 2, 2022. <https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-urban-areas.html>

ATTACHMENT-A

Waiver requirements from the draft NPDES Phase II MS4 Tier II Permit as issued for public comment by
DNREC on June 8, 2022

Effective Date: **DATE**

State Permit Number: WPCC 3033/20

Expiration Date: **DATE**

NPDES Permit Number: DE
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**Table 1. MS4s Identified by the 2010
Census**

MS4	Population*	Watershed	Pollutants Causing Impairments
Blades	1,241	Nanticoke	TN, TP, Bacteria
Camden	3,464	St. Jones	TN, TP, Bacteria
Cheswold	1,380	Leipsic	TN, TP, Bacteria
Clayton	3,037	Smyrna	TN, TP, Bacteria
Delmar	1,597	Broad Creek/Pocomoke	TN, TP, Bacteria
Felton	1,298	Murderkill	TN, TP, Bacteria
Federica	774	Murderkill	TN, TP, Bacteria
Laurel	3,708	Broad Creek	TN, TP, Bacteria
Magnolia	225	St. Jones	TN, TP, Bacteria
Seaford	6,928	Nanticoke	TN, TP, Bacteria
Smyrna	11,147	Smyrna	TN, TP, Bacteria
Viola	157	Murderkill	TN, TP, Bacteria
Woodside	181	Murderkill	TN, TP, Bacteria
Wyoming	1,313	St. Jones	TN, TP, Bacteria

*Populations were taken from the Delaware League of Local Governments website (09/23/19)

Waiver Criteria

In Delaware's TMDLs, the Department discusses the sources of nutrient and bacteria pollutants. In the case of urban land uses, those sources consist primarily of sedimentation and erosion from construction, septic systems, wildlife and pet waste, and lawn fertilizers. Structural and nonstructural BMPs can intercept these pollutants and prevent them from washing into surface water. Structural BMPs for nutrients and bacteria include vegetated stream buffers, infiltration trenches, and grassed swales.

Nonstructural BMPs include actions like pumping septic systems, educating the public to avoid over fertilizing their lawns, and properly managing pet waste.

The Department has established State-wide *Sediment and Stormwater Regulations* (7 DE Admin. Code 5101) for land disturbance on an area equal to or greater than one acre. The Department also delegated authority for reviewing construction plans and conducting inspections to counties, county conservation districts, certain municipalities, and DeIDOT. As the NPDES permitting authority, the Department believes that the implementation of these *Regulations* meets the construction and post-construction storm water runoff control requirements of §122.34 (b)(4) and (5). For those permittees who either are or have relevant agreements with the aforementioned delegated agencies, establishment by a MS4 permittee of a construction and post-construction runoff control program would be duplicative of that State-wide program.

In order to qualify for a waiver, small new MS4s with a population between 1,000 and 10,000 residents must pass threshold criteria of controlling TP, TN and bacteria through the implementation of a construction/post-construction sediment and stormwater control program and the replacement of onsite septic systems with centralized wastewater treatment. The Department has determined that under the following circumstances, a MS4 municipality may be waived from the Tier II General Permit, where:

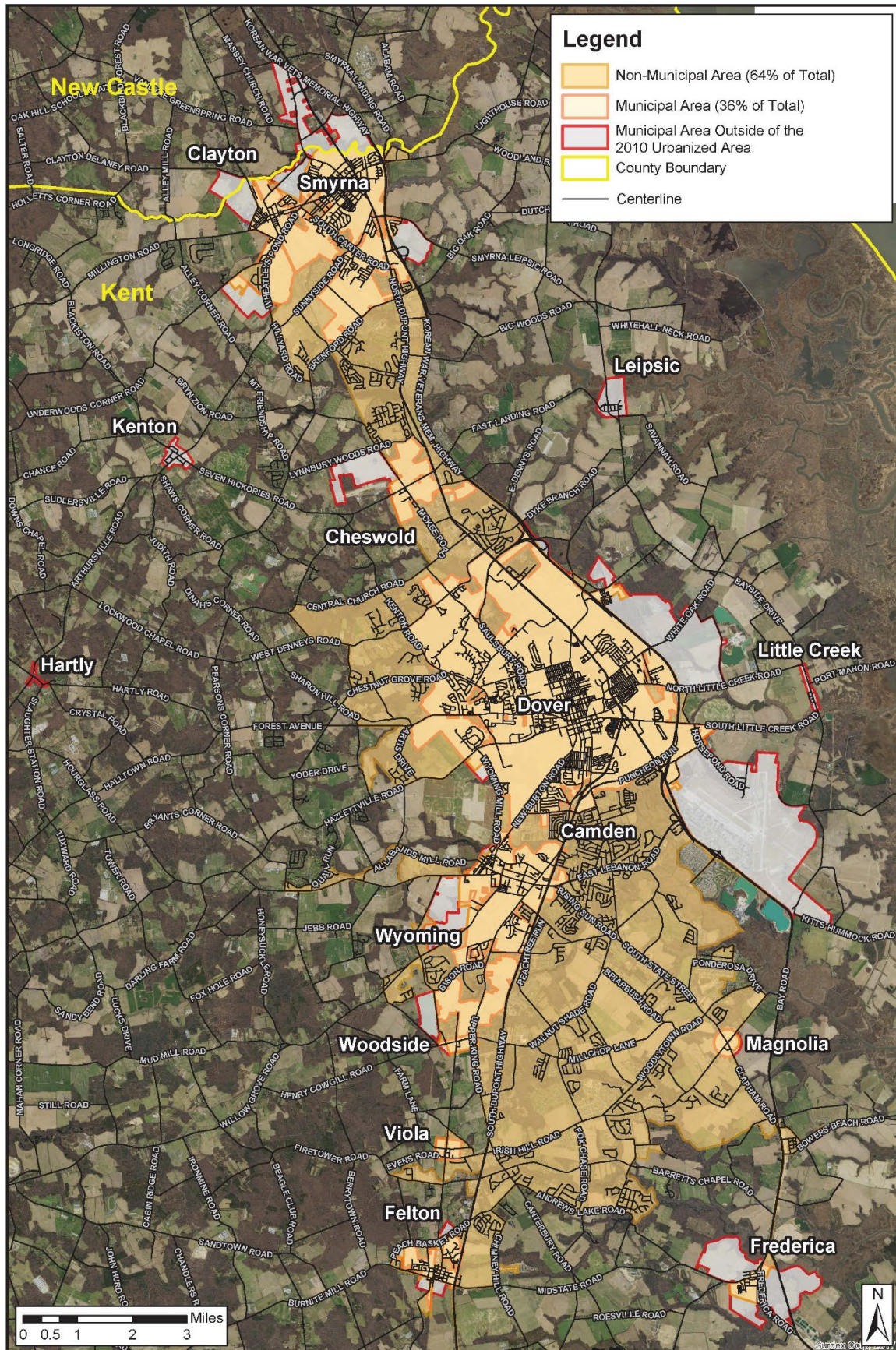
1. the MS4 contributes less than 5% of the total load of nutrients and bacteria to the watershed, and
2. the MS4 does not drain to a waterbody that is classified as ERES, and

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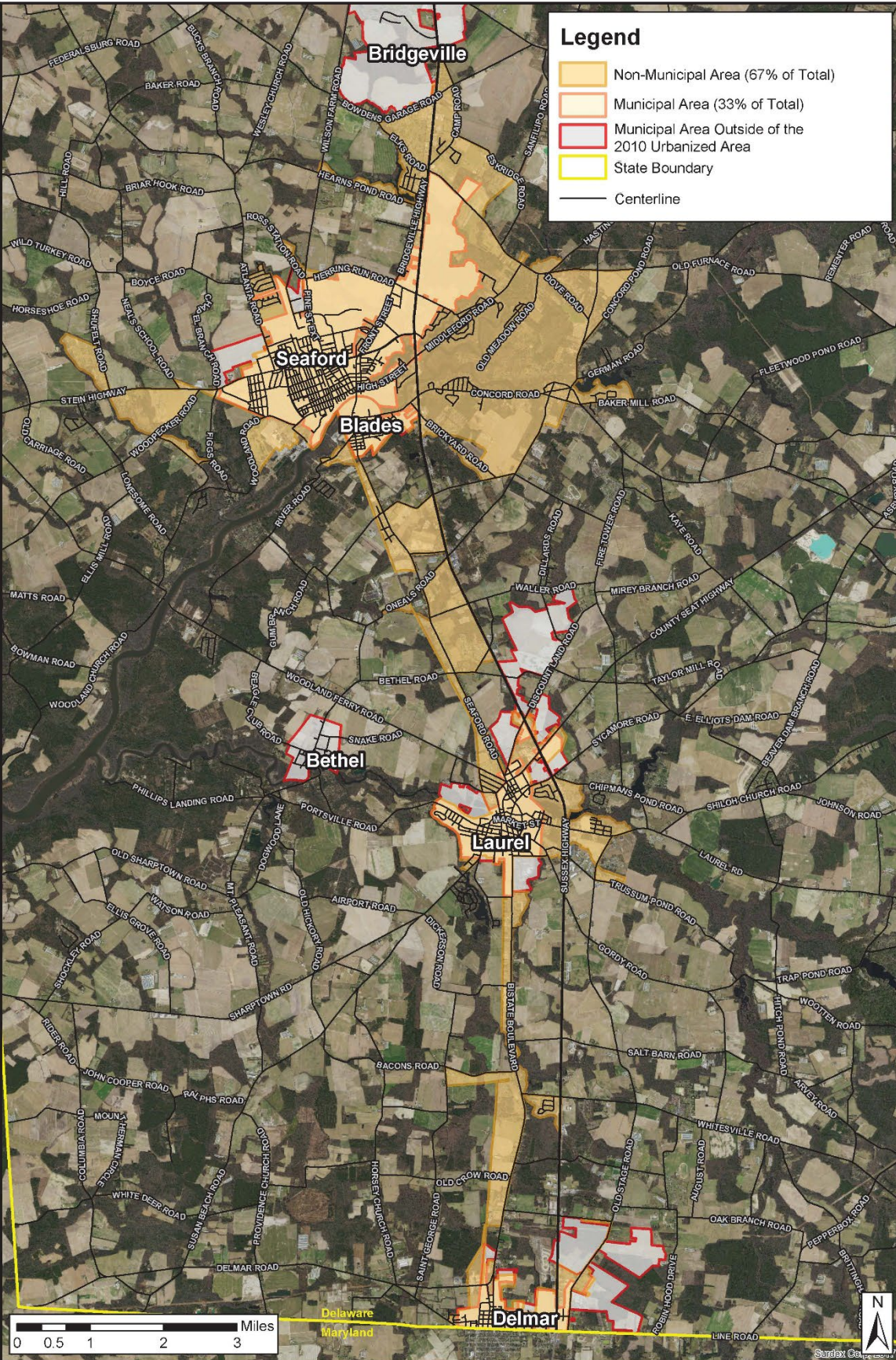
ATTACHMENT-B

Kent County and Sussex County Phase II Areas Based on the 2010 Urbanized Area

Kent County Phase II Area - 2010 Census



Sussex County Phase II Area - 2010 Census



ATTACHMENT-C

Kent County and Sussex County Roadway Classification Tables

i. Kent County / Dover Urbanized Area:

Maintenance	Length (miles)	% of Total
State Road Maintained by State	291.63	36.3%
Suburban Road Maintained by State	153.47	19.1%
State Road Maintained by Other Forces	1.00	0.1%
Suburban Road Maintained by Other Forces	1.77	0.2%
Municipal Road Maintained by Other Forces	1.55	0.2%
Municipal Road Maintained by Municipal Forces	183.11	22.8%
Private	171.15	21.3%
Total	803.68	-

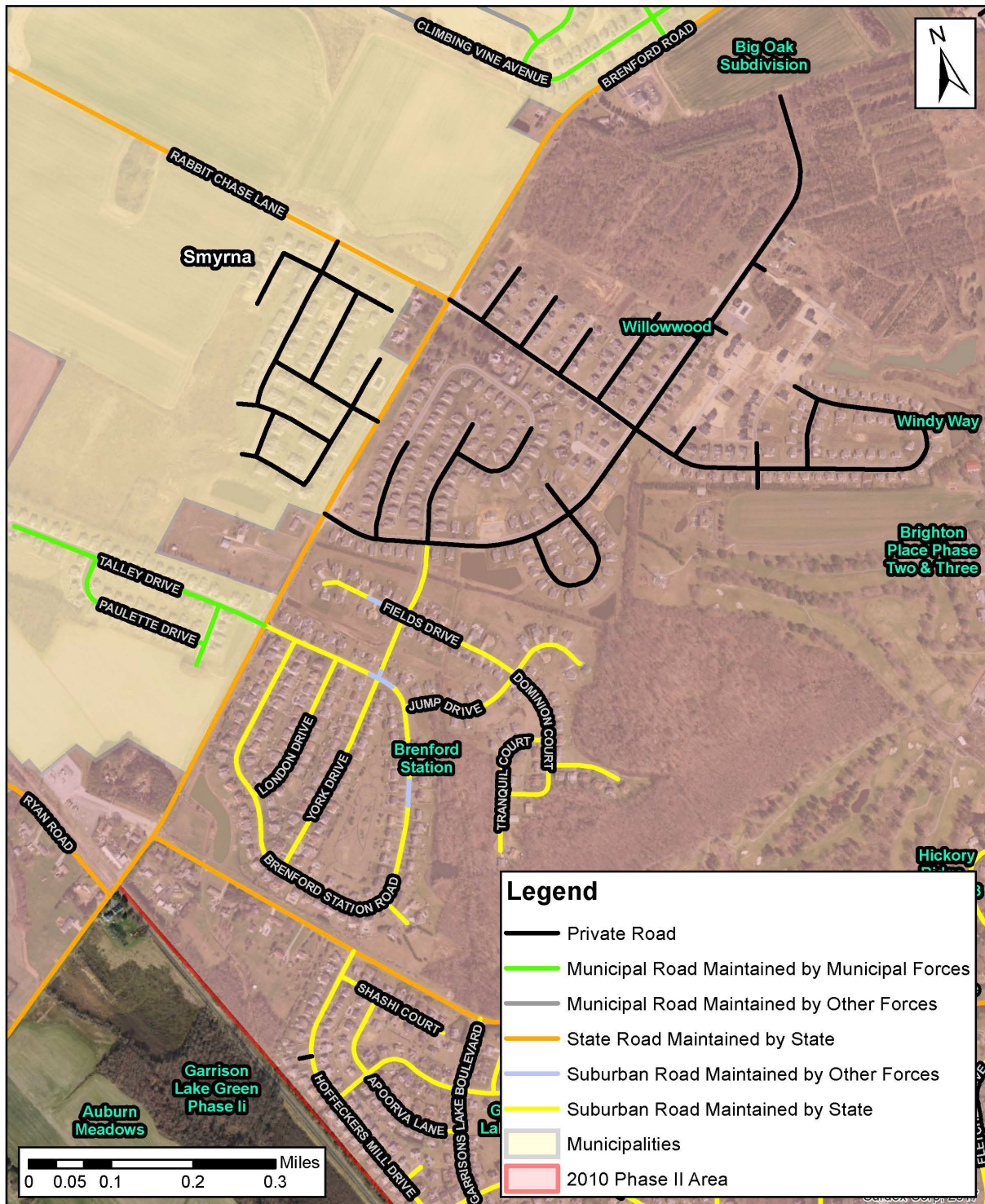
ii. Sussex County / Salisbury Urbanized Area:

Maintenance	Length (miles)	% of Total
State Road Maintained by State	80.75	35.9%
Suburban Road Maintained by State	22.91	10.2%
Municipal Road Maintained by State	0.56	0.2%
State Road Maintained by Other Forces	0.05	0.0%
Suburban Road Maintained by Other Forces	0.12	0.1%
Municipal Road Maintained by Other Forces	0.33	0.1%
Municipal Road Maintained by Municipal Forces	60.42	26.8%
Private	60.03	26.7%
Total	225.17	-

ATTACHMENT-D

Kent County and Sussex County Roadway Exhibits

Kent County Roadway Exhibit



Sussex County Roadway Exhibit



ATTACHMENT-E

Phase II Population Data

Phase II Population Data¹

Dover Urbanized Area

2010 Urbanized Area Population: 110,769

2000 Urbanized Area Population: 65,044

Municipality	2010 Population	2010 % of Urbanized Area	2000 Population	2000 % of Urbanized Area	% Growth	% Change
Camden	3,708	3.35%	2,100		43.37%	4.24%
Dover	36,047	32.54%	32,135	49.41%	10.85%	10.31%
Smyrna	10,023	9.05%	5,679		43.34%	11.45%
Kent County ²	60,991	55.06%	32,909	50.59%	46.04%	74.01%
Total	110,769	100.00%	72,823	100.00%	N/A	100.00%

Salisbury Urbanized Area

2010 Urbanized Area Population: 24,588

2000 Urbanized Area Population: N/A

Municipality	2010 Population	2010 % of Urbanized Area	2000 Population	2000 % of Urbanized Area	% Growth
Laurel	3,708	15.08%	3,668	N/A	1.08%
Seaford	6,928	28.18%	6,699	N/A	3.31%
Sussex County ²	13,952	56.74%	N/A	N/A	N/A
Total	24,588	100.00%	10,367	0.00%	N/A

All Phase II Permittees

Municipality	2010 Population	% Total	2000 Population	% Total	% Growth
Camden	3,708	1.83%	2,100	1.59%	43.37%
Dover	36,047	17.81%	32,135	24.30%	10.85%
Laurel	3,708	1.83%	3,668	2.77%	1.08%
Middletown	18,871	9.33%	6,161	4.66%	67.35%
Newark	31,454	15.54%	28,547	21.59%	9.24%
Smyrna	10,023	4.95%	5,679	4.29%	43.34%
Seaford	6,928	3.42%	6,699	5.07%	3.31%
University of Delaware ³	16,661	8.23%	14,347	10.85%	13.89%
Sussex County ²	13,952	6.90%	N/A	N/A	N/A
Kent County ²	60,991	30.14%	32,909	24.88%	46.04%
Total	202,343	100.00%	132,245	100.00%	N/A

¹ Based on data reported on the 2000 and 2010 Census

² Non-municipal, urbanized area

³ Number of undergraduates

