LAND USE PLAN ELEMENT OF THE TOWNSHIP OF NORTH HANOVER MASTER PLAN

NORTH HANOVER TOWNSHIP
BURLINGTON COUNTY, NEW JERSEY

NORTH HANOVER TOWNSHIP JOINT LAND USE BOARD

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Original Signed and Sealed Accordance with Law.

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LAND USE PLAN ELEMENT

STATUTORY REEXAMINATION OF MASTER PLAN

New Jersey's Municipal Land Use Law (MLUL), N.J.S.A. 40:55D-1 et seq., requires all municipalities to reexamine their master plans at least every six years. The purpose of this requirement is for municipalities to have regular, periodic reviews of current information and changing conditions within the municipality in the interest of keeping long-range planning as up-to-date as possible.

In C.40:55D-89 of the MLUL, the following language is set forth:

> *The governing body shall, at least every six years, provide for a general reexamination of its master plan and development regulations by the planning board which shall prepare and adopt by resolution a report on the findings of such reexamination, a copy of which report and resolution shall be sent to the county planning board and the municipal clerk of each adjoining municipality…*

The Township of North Hanover Planning Board adopted an updated Master Plan on July 12, 2006. That Master Plan was based on the previous Plan that was adopted in November of 2000. The 2006 Master Plan Reexamination made a number of new land use recommendations.

The MLUL requires consideration of five areas of concern within the statutory reexamination report. This plan updates one, Land Use, of the Master Plan elements.

CHANGING CONDITIONS

Rapidly changing conditions in North Hanover and the region necessitate a complete update of the Land Use Plan Element even though the Master Plan was updated in July 2006. Some of these changing conditions are described below:

- Ongoing residential development in adjacent portions of Mercer County;
- Public opinion that North Hanover is evolving from a rural community to a more suburban place;
- The redevelopment in Wrightstown will impact land use in North Hanover;
- The Route 206 corridor study and build out analysis forecasted sprawl and the loss of agricultural land if local land use policies remain unchanged; and
- The realization that the current zoning ordinance encourages development and the loss of open space and farmland.

DEMOGRAPHIC, ECONOMIC, AND HOUSING PROFILE

Table 1 below shows some key population indicators in North Hanover, Burlington County, and the neighboring municipalities. The decrease in population in North Hanover from 1990 to 2000 is most likely the result of the realignment of Fort Dix and McGuire Air Force Base that occurred during the 1990s. (There is some question as to whether the area experienced the population loss to the degree indicated in the census figures. Nevertheless, these figures are presented here due to the lack of an alternate data source.) However, this trend of decreasing population is expected to reverse in response to the planned Megabase and new residential development. According to Delaware Valley Regional Planning Commission (DVRPC) projections, the population of North Hanover is expected to increase from 7,347 in 2000 to 8,380 (14.1%) in 2015 and 8,390 (14.2%) in 2025.

		Population	Population Density (person/Sq mile)	Median Age	% of Population over 65
North Hanover	**1990**	10,094	437.3	28.7	6.1%
	2000	7,347			6.2%
	% Change	*-27.43%*			
Wrightstown	**1990**	3,843	425.1	31.2	9%
	2000	748			8.6%
	% Change	*-80.6%*			
New Hanover	**1990**	9,412	423.7	32.1	.94%
	2000	9,744			1.3%
	% Change	*+4.5%*			
Burlington County	**1990**	395,066	526.2	37.1	12.6%
	2000	423,394			
	% Change	*+ 7.2%*			
Source: 1990 and 2000 U.S. Census					

Table 1: **Demographic Profile**

Some key economic indicators are summarized in *Table 2*. The unemployment rate in North Hanover was a full percentage point higher than the County in 2005. The Sykesville Road area is in decline with an increasing number of vacant and underused properties. According to DVRPC projections, the number of jobs in North Hanover is expected to decrease from 782 in 2000 to 757 (-3.2%) in 2015 and 623 (-20.3%) in 2025. However, this downward trend could reverse as a result of the 2005 announcement of the Megabase which will result in an initial investment of over $300 million in the bases. The Department of Defense privatization of its military housing will rehabilitate units, raze existing substandard units and construct new housing by 2011.

	Median Family Income*	Per Capita Income*	Unemployment Rate**	% of Families Below Poverty Line*
North Hanover	$45,553	$17,580	4.7%	4.4%
Wrightstown	$29,375	$14,489	5.5%	22.8%
New Hanover	$45,511	$12,140	3.2%	3.2%
Burlington County	$67,481	$26,339	3.7%	3.2%
Sources: * 2000 U.S. Census, Summary File 3 and ** 2005 NJDOL Estimates				

Table 2: **Economic Indicators**

As summarized below in *Table 3*, the value of homes in North Hanover is greater than the County as a whole. However, in comparison to Burlington County, the percentage of owner occupied units is significantly lower in North Hanover. This can be explained by the presence of military families in the area on a short term basis.

		Total Number of Housing Units*	Median Value of Owner Occupied Homes*	% Owner Occupied**	% Occupied **
North Hanover	**1990**	3,317	$166,700	42.4%	96.5%
	2000	2,656	$175,000	50.9%	93.6
Wrightstown	**1990**	1,339	$94,100	19.3%	91%
	2000	339	$98,900	25%	92%
New Hanover	**1990**	834	$121,200	22.4%	91.5%
	2000	1,397	$133,200	19%	84.1%
Burlington County	**1990**	143,236	$122,000	75.4%	95.3%
	2000	161,311	$137,400	77.4%	95.7%
Sources: * 2000 U.S. Census, Summary File 3 and ** 2000 U.S. Census, Summary File 1					

Table 3: **Housing**

OVERVIEW

The rural, agricultural character of North Hanover Township is threatened on many fronts, including increasing market pressures for residential development and the recently announced "Fort Dix-McGuire-Lakehurst Megabase." The primary purposes of the Land Use Plan is to preserve agricultural land in the Township while also concentrating development in the appropriate areas with existing development such as the Sykesville Road corridor near Wrightstown and the Cookstown and Jacobstown villages. These dual goals of preserving agricultural areas while also steering development are complimentary and will accommodate the

anticipated growth pressures in North Hanover while preserving the rural, agricultural character of the Township. Four tools are being pursued simultaneously to address these two goals:

State and County Farm Land Preservation Programs: The Township will continue to work with Burlington County and the State farmland preservation programs to preserve as much agricultural land as possible through preservation easements and, in some cases, fee simple purchases of land. North Hanover has already preserved 3,350 acres of farm land through this process and the success of the program is discussed further under the current land use section. Despite the success of the farm land preservation programs, they can no longer be the sole preservation approach in the Township because of the high cost of farmland preservation as well as its reliance on landowner voluntary participation. In addition, farmland preservation programs do not address the need to increase densities in the areas targeted for development or redevelopment in North Hanover.

Burlington County/State Transfer of Development Rights (TDR): The Burlington County Program, initiated in 1989 and the State Program, which began in 2005, provide a mechanism to manage growth by "transferring" it from areas to be preserved for agricultural or open space purposes, to areas which are best suited for development, i.e., access to sewer, existing development. The TDR program will provide an important mechanism to achieve the goals of the Land Use Plan. However, TDR requires many planning studies and extensive coordination with several State agencies. The TDR planning process is expensive and typically takes between 3-5 years to implement. North Hanover faces the very real threat of losing valuable agricultural land to development pressures during the TDR planning period. This would not only result in the loss of the agricultural character of North Hanover but could also preclude the successful redevelopment of the Sykesville Road area. Even though this is a time consuming process and cannot be the total answer or approach for the Township, North Hanover is pursuing grant opportunities to begin the TDR planning process, because it does represent a long term solution to meeting the needs of the community.

Non-Contiguous Parcel Clustering (NCPC)*:* The Municipal Land Use Law gives municipalities the authority to create a zoning form, which permits density to be transferred from one parcel to another non-contiguous parcel within a planned development. This allows for some lands to be preserved while others are developed at higher densities. NCPC must be undertaken in the context of a planned development and properties in the sending and receiving areas must be developed as a single entity. North Hanover will use this tool to preserve farmland while simultaneously moving forward with the TDR and farmland preservation processes. The disadvantage is that North Hanover will have less control over the process than with TDR, but it will serve as a better interim step while waiting for the TDR process to complete, than to proceed without using this tool. The end result may be the development of some agricultural land into residential subdivisions in order to preserve other agricultural areas. While this is not the vision of the Master Plan or Land Use Plan, it is considered better than the alternative, which is to maintain the current zoning that encourages uncontrolled development, while the TDR planning process moves forward. The build out analysis completed for this plan illustrates the need for revised zoning since it projects that

approximately 1,000 new homes could be built in North Hanover under the current zoning. The NCPC is discussed in greater detail later in the Land Use Plan Element.

Sykesville Redevelopment Area: The Sykesville Road corridor near Wrightstown has been determined to be "an area in need of redevelopment." This designation will allow for a redeveloper to be chosen to implement the vision of the Master Plan Reexamination Report and this Land Use Plan. The area will likely be developed as a mixed-use village area with a variety of single family lot sizes, multi-family housing, commercial services, and public uses. The uses and densities desired for the redevelopment area will require waste water treatment infrastructure, which is discussed later in this Land Use Element.

STATEMENT OF GOALS AND OBJECTIVES

This Land Use Plan supports the five goals and twenty objectives listed in the 2006 Reexamination of the Master plan.

Reexamination of Master Plan Goals: The Reexamination of the Master Plan identified that, within ten to twenty years from 2006, the following would be achieved:

1. Our landscape of fields, forests and small settlements will continue to define our rural and historic character; and

2. Our natural areas and ecosystems will be protected from pollution, flooding, and damage to the ecology of wildlife; and

3. Agriculture will continue to be a viable and valuable contributor to our economy and quality of life enhanced and protected by appropriate zoning; and

4. Areas for shopping, business growth, housing, recreation and public and private services will meet our needs as residents, workers and visitors; and

5. Our commercial area on Sykesville Road adjacent to Wrightstown will be revitalized as a village utilizing a "town center" focal point, aesthetically pleasing and appropriate to the Township, connecting the various and diverse elements with encircling trails/pathways providing us with a choice to walk/bike from one area to another while minimizing the need for vehicles for shopping, housing, civic functions and recreation.

Relationship of Land Use Plan Element to Master Plan Goals: The three programs, Non Contiguous Parcel Clustering (NCPC), TDR, and Farmland Preservation, recommended in the Land Use Plan Element will directly implement the goals identified in the Master Plan Reexamination Report and reiterated above. The Plan will preserve the rural character of North Hanover's farming and natural areas as well as the viability of farming through the preservation of large acreages of agricultural land. In addition, the revitalization of the Sykesville Road area will also be achieved through the density transfer program. This revitalization will encourage non-residential ratables, such as commercial, retail, and office uses as well as adding some new housing and recreational opportunities.

Reexamination of Master Plan Objectives: The following objectives were identified to help ensure that the Master Plan achieves the identified goals:

1. Provide for a range of land uses that include agricultural, residential, professional, commercial, industrial, public, recreational, and conservation land uses.

2. Control development intensities and population densities to be appropriate to the overall character of the Township, its community services and facilities, and the natural constraints of the environment.

3. Ensure that development does not conflict with environmental constraints and is adequately served by municipal facilities.

4. Protect the quality and quantity of the groundwater supply.

5. Protect stream corridors.

6. Preserve and restore sites and areas of local, regional and national historic and cultural value.

7. Improve the energy efficiency of development, both for individual structures and for transportation and services within the Township.

8. Provide opportunities for residential, commercial and industrial resource recovery, reuse and recycling using collection and processing facilities and procedures that are located and managed to prevent environmental contamination and other conflicts with nearby land uses.

9. Preserve the most productive agricultural soils for farming.

10. Recognize and promote the diversity, productivity and long-term sustainability of our active farms with the intent of making the agricultural industry the highest and best use of our most productive soils instead of an interim use that gives way to residential development.

11. Buffer new development from farmlands to minimize land use conflicts arising from the temporary negative aspects of agricultural operations including the generation of truck and car traffic, noise, odors, lights and dust.

12. Define locations and design requirements for new development that minimize conflicts between new development and nearby land uses, reduce traffic generation and minimize the costs of our public services.

13. Design new housing development in the form of traditional hamlets and villages that maintain rural character, open landscapes and views, landscaped buffers at the development perimeter and internal circulation systems for cars, bicycles and walking that reduce traffic generation on existing roads and highways.

14. Provide locations for public facilities and services that support the existing and future needs of the Township.

15. Provide locations for recreational facilities that can benefit Township residents of all age groups in future years.

16. Protect the McGuire AFB flight hazard zone and the McGuire Access Highway (CR 545) from encroachment by housing and by commercial and industrial structures.

17. Provide locations for services, retail, entertainment and recreational industries and professional, high-tech and incubator ("start-up") type industries that enhance the Township's economic and property tax ratable base and that may support the "Fort Dix-McGuire-Lakehurst Megabase."

18. Maintain an economic development committee advisory to the Joint Land Use Board to pursue funding sources and programs to finance local initiatives to explore and promote redevelopment and rehabilitation of vacant and underutilized sites, both residential and nonresidential, and to facilitate economic development in and revitalization of the Township.

19. Provide opportunities for new high-amenity village housing as well as modest, attractive, affordable housing and mixed-use commercial development in the proposed redevelopment area on Sykesville Road near Wrightstown.

20. Provide efficient mechanisms that use new development and redevelopment as a means to preserve farmland and open space in rural areas of the Township, establish viable commercial areas, and prevent further low-density suburban sprawl.

21. Ensure that development is consistent with existing and proposed development of adjacent communities and those programs proposed by the State of New Jersey and affected County governments.

Relationship of Land Use Plan Element to Goals: The Land Use Plan and the proposed density transfer program supports the objectives identified in the Reexamination Report.

Environment: The Land Use Plan takes into consideration environmental constraints and preserves environmentally sensitive and important areas such as streams and ground water resources.

Farming: The interim density transfer and the proposed TDR programs encourage the preservation of productive agricultural areas and discourage the development of agricultural land. In addition, the location and design of new development is carefully chosen to enhance the rural character of North Hanover and be compatible with neighboring agricultural uses.

Redevelopment: Revitalization of the Sykesville Road Area will be facilitated through TDR and redevelopment planning processes. The planned redevelopment will also

facilitate the economic growth in the Township and build on efforts underway in neighboring Wrightstown.

Preserve and Restore the Existing Resources: This Land Use Plan recommends a wide range of land uses that includes agricultural, residential, professional, commercial, industrial, public, recreational, and conservation. Agricultural and conservation uses are concentrated in undeveloped areas while growth is focused in the redevelopment zone along Sykesville Road. All proposed land uses take into consideration environmental constraints, the protection of the natural environment, as well as the necessary infrastructure required to accommodate development.

Energy Efficient Development: Future growth will be guided into appropriate areas to maximize the use of existing infrastructure, minimize land development, and provide opportunities of efficiencies of scale. The redevelopment plan will strongly encourage green construction and the use of LEED certified design within any new development. In addition, the Township should explore innovative green technologies in the development of any future wastewater treatment options such as the reuse of grey water for agricultural uses.

Flight Hazard Zones: These areas within North Hanover should be re-zoned to conform with federal guidelines.

CURRENT LAND USE

The Existing Land Use Map, *Figure 1*, illustrates the rural nature of the community. More than three-quarters of the Township's 17.4 square miles of land mass consists of farmland, agricultural uses and vacant lands. This rural landscape extends into neighboring municipalities that surround North Hanover. To the casual observer, it is difficult to know where one community ends and one begins due to the expansive rural nature of the landscape that is manifested in the form of farmland, woodland, open fields, and meadows that separate residential development throughout the communities.

Residential development, which consists almost entirely of low-density, detached single-family dwellings on lots containing one acre or more, exists in concentrations along and in the vicinity of County Route 537, Jacobstown and the hamlet area of Arneytown (the central portion of North Hanover); adjacent to Wrightstown Borough (southwestern corner of the Township); and adjacent to and in the vicinity of the Cookstown section of neighboring New Hanover Township (southwestern corner of North Hanover). Pockets of smaller residential developments are scattered throughout North Hanover. The growth of residential development is a signal that the rural landscape could disappear in the event more of this type of development occurs in North Hanover.

Commercial development exists in North Hanover, with most of it located in the southwestern corner of the community next to Wrightstown Borough along Wrightstown-Sykesville Road. The majority of this non-residential development occurred years ago to serve active military bases (Fort Dix and McGuire Air Force Base) in adjacent communities and function as a rural center of commerce that was based in Wrightstown and expanded into North Hanover.

A more extensive breakdown of land use coverage for North Hanover Township is provided in the following table and shown on *Map 1*.

Land Use	Acreage	% of Total
Residential: Single-Family Detached	1,039.53	9.3 %
Residential: Multi-Family	217.47	1.9 %
Residential: Mobile Home	108.31	1.0 %
Manufacturing: Light Industrial	6.21	0.1%
Transportation	19.54	0.2%
Utility	91.25	0.8 %
Commercial	102.81	0.9 %
Community Services	189.45	1.7 %
Recreation	173.74	1.6 %
Agriculture	5,696.63	50.9 %
Wooded	3,201.73	28.6 %
Vacant	226.63	2.0 %
Water	126.69	1.1 %
Total	11,199.99	
Source: GIS data provided by the DVRPC for the year 2000.		

***Table 4*: Existing Land Use**

Rural Land Uses: The coverage that contributes toward the rural character of North Hanover consists of agriculture, wooded, vacant lands and water which, together, total 9,251.68 acres or 82.6 percent of North Hanover's land mass. The predominant coverage among the four is agriculture occupying 5,696.63 acres or 50.9 percent of the land mass followed by wooded lands that occupy 3,201.73 acres or 28.6 percent of the land mass. Vacant lands cover 226.63 acres (2.0 percent of the land mass), and water covers 126.69 acres (1.1 percent of the land mass). Together these land uses that make up the rural character in North Hanover dominate over all other land uses in the community. As of 2007, 3,350 acres of land have been preserved as farmland leaving a balance of about 5,900 acres of agricultural, wooded, vacant, and water areas that are vulnerable to development that would transform the community from a rural landscape rooted in agriculture to a suburban landscape founded on residential development.

Residential Land Uses: Residential development in the form of single-family detached units, multi-family units and mobile homes cover 1,365.31 acres or 12.2 percent of North Hanover's land mass. Of this residential land use coverage, single-family detached units comprise the majority (1,039 acres or 9.3 percent of the land mass). The multi-family units, which are primarily military housing, occupy 217.47 acres (1.9 percent of the land mass) in the southern portion of the community next to McGuire Air Force Base. The mobile homes are located in the southwestern corner of the Township next to Wrightstown. This land use coverage occupies 108.31 acres or about 1.0 percent of the land mass. Given the fact that residential development covers about 12.2 percent of North Hanover, it is the second most predominant land use in the community.

Community Services: Community services (municipal and school uses) and recreation occupy 363.19 acres or 3.3 percent of the municipality's land mass. This coverage has most likely increased given the recent construction of a new school located along County Route 537. Notwithstanding these land uses are the third most predominant based on percentage of total land mass, they are very minor in terms of actually influencing the overall landscape. The school, community center, Township offices and Fire Company are all in Jacobstown.

Other Land Uses: Together, manufacturing, transportation (mostly parking lots), utilities and commercial uses cover 219.81 acres or 2.0 percent of North Hanover's land mass. Commercial uses comprise the majority of these uses (102.81 acres or 0.9 percent of the land mass). Utilities occupy 91.25 acres or 0.8 percent of the land mass. Transportation uses occupy 19.54 acres (0.2 percent of the land mass) followed by manufacturing at 6.21 acres (0.1 percent). These land uses are the least dominant and affect the entire landscape of North Hanover the least, as well.

North Hanover is adjacent to several other small towns that provide local centers in the area. Wrightstown, in the southwestern corner of the Township, is the area directly adjacent to Fort Dix. Cookstown, in New Hanover Township, is directly adjacent to the southeast corner of the Township, and extension of Meany Road. Arneytown and Ellisdale are small communities along Provinceline Road heading north from Route 537.

The following chart is a comparison of the tax records for the number of parcels by category. It is clear that as housing parcels increased, vacant parcels decreased.

	1980	1990	1995	2000	2005
Residence	629	695	803	868	934
Farmhouse	81	80	89	87	85
Farms	150	160	175	171	174
Apartment Units	248	248	232	232	232
Apartment Complexes (2)	10	9	8	10	10
Mobile Home Spaces	611	617	631	631	631
Commercial (parcels)	60	60	61	61	60
Public Schools	5	5	5	*5	*5
Charitable	7	7	10	8	9
Miscellaneous	2	2	3	2	3
Vacant (parcels)	221	261	187	137	114
Public property	N/A	20	19	19	19

*One local school, four schools on McGuire Air Force Base

Table 5. **Current Land Use (Units)**

The development of North Hanover as well as the maintenance of the agricultural heritage is based upon the soils of the area. Since there are limited public sewer systems in the community, development is dependent upon soil capacity for septic systems. A review of Seasonal High Water Tables indicates that approximately 66% of the Township's 11,123 acres has a water table greater than six feet. The Township's current regulations call for 2 to 5 acre lots, depending on the percolation rate within the Township.

Approximately 65% of the land in North Hanover is classified as "Prime" soil for agricultural production. These soils, along with soils in Chesterfield, are some of the best agricultural soils in Burlington County. There is however, one corner of the Township were the soils are reasonably good for agriculture but very poor for development. This is the area form Larrison-Streeker Road, west to Jacobstown-Cookstown Road and the east to the Township line. This area is approximately 25% of the Township and represents an area of minimal development possibilities.

The existing zoning in the Township of North Hanover is shown on *Map 3*. The Township is currently divided into 6 zoning districts. These are summarized in the following table:

Existing Zoning
R-A: Single Family Residential/Agricultural (2-5 acre lots)
R-1: Single Family – One Acre
R-2: Residential High Density
C-1: Commercial
C-2: Convenience Commercial
I: Industrial District

Table 6: **Summary of Existing Zoning**

ENVIRONMENTALLY SENSITIVE AREAS

North Hanover Township's rural landscape consists of both natural and manmade environments. Man has greatly influenced North Hanover's landscape over the years and continues to shape and alter it. One of the earliest influences of man on the environment is the clearing of forests for agricultural purposes, and agriculture continues to be an important factor that defines North Hanover's rural landscape. Development, which is almost entirely in the form of low-density, detached single-family dwellings, continues to change the Township's rural landscape.

The natural environment is important in defining North Hanover's rural landscape. Stream corridors, woodlands and wetlands form edges and boundaries of farmland and fields as well as housing developments. These natural areas provide habitat for flora and fauna in the Township.

In North Hanover these environmentally sensitive areas are associated with the numerous streams that flow across the community and, in two instances, form the northern and southern municipal boundaries for the Township (Crosswicks Creek to the north and the Northern Branch of Crosswicks Creek to the south). *Map 2* shows the locations of steep slopes, floodplains and wetlands.

The areas and percentages of environmentally sensitive areas in North Hanover are provided in *Table 7*. The most abundant environmentally sensitive area consists of freshwater wetlands that cover 1,942.91 acres or 17.3 percent of North Hanover's land mass. Floodplains affect 12.7 percent of North Hanover by inundating 1,426.73 acres of land during 100-year storms. Steep slopes are found on 763.76 acres of land (6.8 percent of the Township's land mass).

Sensitive Area	Acreage	% of Township
100 – yr Flood Plain	1,426.73	12.7 %
Steep Slopes	763.76	6.8 %
Wetlands	1,942.91	17.3 %
Total	4,133.40	30.7 %
Source: NJ DEP and Burlington County GIS data.		

***Table 7*: Environmentally Sensitive Areas**

The environmentally sensitive areas mapped in North Hanover represent, for all intents and purposes, areas that are not developable and/or are greatly restricted in terms of being developed as regulated by the State of New Jersey. Identifying these areas is important for planning for the development and preservation of North Hanover Township.

BUILD OUT ANALYSIS

The build out analysis concluded that there are approximately 982 developable lots in the RA Rural Agricultural zoning district. This development potential of each parcel was determined based on the parcel sizes, soil types, environmentally sensitive lands, and dwellings (existing or lacking) on parcels of land. A mathematical formula taking these factors into account was developed to determine the build out analysis on a parcel by parcel basis. The full build out analysis is provided in *Appendix* A.

The RA Rural Agricultural zoning district is impacted by two types of soils that dictate density (dwelling units per acre) based on septic suitability: "good soils" permit one dwelling unit per two acres and "bad soils" permit one dwelling unit per five acres. Good and bad soils are based on New Jersey Environmental Protection environmental sensitivity data (generally wet and slow percolating soils) and recent State Development and Redevelopment Plan Cross Acceptance mapping for the municipality.

PROPOSED LAND USE

Basis for Land Use Plan

The *Agricultural Smart Growth Plan for New Jersey* (ASGP), which was prepared by the New Jersey Department of Agriculture in November 2003, summarizes the issue of loss of farmland relative to farmers' concerns in the following manner:

- Preserving Equity.
- Recognizing the importance of equity [to the farmer], the [New Jersey] State Planning Commission made it the number-one statewide policy of the State Development and Redevelopment Plan, adopted first in 1992 and again in 2001.
- The impact assessments prepared by Rutgers University on both plans acknowledge the need to address equity by using a broad array of programs to preserve farmland, including the purchase or transfer of development rights.

The ASGP indicates that the agricultural community opposes down zoning, large lot zoning and any other zoning that has the practical effect of large-lot zoning because these zoning practice fracture and consume farmland, promote land-consumptive sprawl, adversely impact landowner equity and are counterproductive to the principles of smart growth. The agricultural community is supportive of equitable and feasible density-transfer methods to coordinate preservation planning in conjunction with regional growth management.

In order for North Hanover to remain rural by maintaining its agricultural community, it must instill SDRP smart growth principles and the five ASGP components into its land use planning and implementation. The Township must continue acquiring the development rights of farmland through its farmland preservation program, as well as continuing its efforts to acquire important open space.

North Hanover Township plans to employ innovative conservation planning coupled with the purchase of development rights programs to consume less land and strike a balance between preservation and growth. "The American Farmland Trust found the problem does not lie in growth itself, but in wasteful and destructive land use." North Hanover Township must avoid making the mistake of establishing a land use planning scheme under which farmland is consumed at a rapid pace only to be replaced by large-lot, low-density suburban sprawl.

North Hanover proposes to implement several land use planning techniques that, to be effective, must be used in tandem with the other components of the ASGP. These planning techniques taken from the ASGP include:

- Agriculture-friendly zoning – a comprehensive land use practice that coordinates zoning and land use policy in a proactive way to encourage agribusiness and reduce the incidence of farmer-homeowner nuisance issues.
- Clustering – a development design technique that concentrates buildings on a portion of land to allow the remainder to be preserved for agriculture, recreation or environmental purposes.
- Density transfer – a technique to encourage flexibility regarding density, intensity of land use and design by engaging landowners in a specific region of a municipality to transfer density to another region for development at a density that is higher than what would be permitted by the underlying zone without such a transfer, thus preserving the land of the sending region.
- Lot size averaging – is a simple method to permit flexibility in lot size on a parcel of land to preserve an area of the parcel of land.
- Transfer of development rights (TDR) – the clustering of development whereby density is transferred from sending parcels of land that are then preserved to receiving areas where development is clustered at a higher density than what is permitted by the underlying zone without the transfer of units from sending areas.
- Planned unit developments (PUD) – a technique for permitting large lots to be developed in a more flexible way (mixing of land uses, higher densities and design) than allowed by the underlying zone.

- Ordinance reform – to encourage more compact growth and mixed-use development patterns in and around existing town centers or in new centers.

The central vision of this Land Use Plan is to preserve the agricultural lands while protecting existing landowner equity. This land use vision will be ultimately achieved through the continued use of Farmland Preservation and eventually TDR, which may take between three and five years to fully implement. In the meantime, the Township will implement NCPC to preserve agricultural areas. NCPC is discussed in the following section since it should be implemented immediately. A discussion of TDR follows that section.

Non Contiguous Parcel Clustering (NCPC) Implementation Plan

The Land Use Plan Map is depicted in *Map 4.* The only change from the previous Land Use Plan Map is the addition of the "Military" land use category over the area occupied by McGuire Air Force Base. This results in an overall reduction in the land area classified as R-2. This map, however, does not capture the changes recommended by NCPC. NCPC is a planning and zoning tool developed to allow for the transfer of density between two non-contiguous parcels. The non-contiguous parcels must be limited to planned developments and they must be developed as a single entity.

As discussed earlier, the build out analysis identified 982 developable lots in the RA Rural Agricultural Area based on existing zone. To implement NCPC, the zoning the RA Rural agricultural area will be changed to 1 dwelling unit per 25 acres, which is the size generally agreed upon to support a viable working farm that can support a family. This change will preserve the agricultural lifestyle in North Hanover and prevent the subdivision of large working farm areas into large residential subdivisions. In the long term, this area will be the sending or transfer zone for the TDR program.

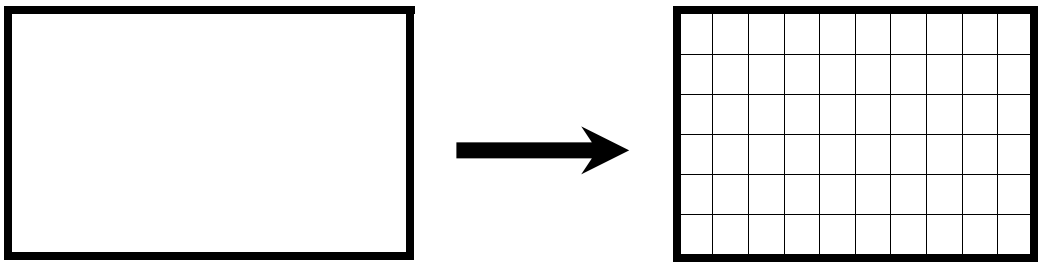
The owner of the parcel proposed for preservation must deed restrict, in perpetuity, the land from further development and may retain ownership of the land holding only the farming or open space rights of the land. The preserved land may be resold for the express use of only farming or open space purposes.

Homesteading on the preserved parcel of land should be permitted when the landowner of the sending parcel retains the corresponding development right(s) for the homestead(s). In other words, one development right for a single-family dwelling on a one-acre lot that would have been transferred must be retained to create one homestead on the land that is to be preserved. It is recommended that one homestead lot be permitted on each additional 40 acres. The requirement is 40 acres in order to preserve as much farmland as possible. It is recommended that the existing farm labor housing ordinance be reviewed to exclude homesteading (permanent, non migrant labor housing.)

In order to address the loss of owner equity resulting from this zoning change, parcels in the RA Rural Agricultural zone will have an additional development option, which is NCPC. Under the NCPC scenario, a developer may purchase credits to develop the floating zone at a greater than the 1 dwelling unit per 25 acres zoning. The minimum lot size in the floating zone will be one dwelling unit per acre. North Hanover Township envisions the RA district becoming sending

areas under TDR. A parcel less than 10 acres in size will retain the original zoning of two to five acres.

The purchase of one credit from the sending parcel will allow for the development of one additional unit in the receiving area. This transfer of density will not result in any net increase in development in comparison to current zoning in the RA Rural Agricultural Zone. The number of credits and by-right zoning will be determined by the build out analysis. The following is an illustration of the density transfer.



100 acre sending farm: all preserved (approx 30 credits)

100 acre Floating Zone: (30 buy right + 30 credits = 60 units)

Floating Zone Density Transfer

In order to illustrate the development options available under NCPC, the following is an example of development scenarios for two 100-acre farms, Farm A and B:

> **NCPC Option 1:** Farm A (and Farm B) could choose to develop their land at the current density, which will likely be 1 unit per 25 acres. Under this option no farmland is preserved.
>
> **NCPC Option 2:** Farm A could reach an agreement with Farm B to develop the land based on the former zoning, one unit per two to five acres (soil dependent) by purchasing all or a portion of the development rights for Farm B (dependent on the size of the development proposed). Under this option Farm B would be preserved.

Option 2 will retain the majority or all of the equity of the landowner in Farm A, which would not be possible if the lands were simply rezoned to a lower density development.

The following implementation steps should be taken to implement NCPC:

1. The Township will adopt a Planned Development Ordinance in order to authorize density transfers and actions of Land Use Board in approving a single development application. This step will allow for the development of one parcel in floating zone to be "tied" to a non-contiguous parcel in the Rural Agricultural zone. NCPC will only be permitted in the context of a planned development. It is recommended that the parcel to be preserved be at least 10 acres in size. While 25 acres has been determined the preferred minimum

size for productive agricultural uses in North Hanover, this 10 acre threshold will permit maximum participation in the NCPC. A parcel less than 10 acres in size will retain the original zoning of two to five acres.

2. The Township will also revise the zoning ordinance to reflect the recommended changes within the Rural Agricultural zone.

3. The Township will evaluate the effectiveness of the NCPC program at the date of the next Master Plan reexamination by looking at the number of credits transferred and development in the floating zones. The NCPC program may be changed or terminated at this time if the desired agricultural and land owner equity preservation goals are not being achieved.

These steps will set the stage for the proposed land uses outlined in this plan. However, except for the zoning changes in agricultural areas, NCPC will not really begin until a developer proposes a development and wishes to take advantage of the density bonuses available through NCPC. In order to be eligible to receive density bonuses, the developer would take the following steps: purchase or obtain a purchase agreement for receiving area; purchase or obtain purchase agreement for the development rights of the sending area; and seek approval of a General Development Plan from the Planning Commission. If approved, the Township would preserve the sending parcel and accept its deed restriction, and allow the receiving parcel to be developed more intensely than otherwise permitted.

Since the build out analysis utilized in this plan relies on macro level data to determine lot yields, owners of both the preservation parcel and floating zone must complete a lot yield to determine the actual number of credits on each parcel based on more detailed information. This lot yield would be prepared in accordance with existing zoning (2 to 5 acre lots, depending on the percolation rate within the Township) with an exclusion of environmentally sensitive lands that would reduce the amount of developable land and provide a greater sensitivity toward preserving such lands in order to establish the lot yield that could be clustered. The lot yield would be in compliance with minimum lot size and bulk and area requirements and have no variances, waivers and design exceptions. Conceptually, the lot yield would be based on a circle with a 200-foot diameter around each dwelling. The septic and well would be located within this conceptual circle and there would be no environmentally sensitive land within this area.

Listed below are a number of qualities of this NCPC plan that differentiate it significantly from a TDR program.

Planned Development: NCPC is only allowed in the context of a planned development. The developer must own or have a contract to purchase the receiving area land and the sending area development credits.

Single Entity: The development in the receiving areas and preservation of the sending areas must be developed as a single entity. Therefore, banking of credits, which is often part of a TDR program, is not permitted.

Floating Zones: Clustering is permitted between any two parcels, provided they meet the minimum lot sizes and other stipulations. In other words, NCPC does not prohibit development in all agricultural zones.

TDR IMPLEMENTATION PLAN

NCPC is a planning technique designed to preserve farmland while the Township proceeds with TDR. Under a TDR program, the RA Rural Agricultural Zone would become the sending area. The difference between the proposed NCPC and TDR plans are that under TDR, development will be directed to the following three special areas with no or minimal development permitted in the former RA zone. With the NCPC program, development will continue to be permitted throughout the Township. The proposed TDR sending area and three receiving areas are shown in *Map 5*.

Sykesville Special Zone: While the Land Use Plan designates three "special zones," growth and redevelopment will be encouraged first in the Sykesville Special Zone due to the substantial need for reinvestment and the availability of infrastructure, namely sewer. This zone is in the process of having a redevelopment plan drafted which will take into consideration the sewage capacity. A redevelopment plan will greatly facilitate the successful revitalization of this area and will assist in the implementation of TDR. This area will be developed as a mixed-use village community with a variety of housing types and commercial uses. Housing will be encouraged on the second story of commercial uses.

Cookstown Special Zone: The area bordering Cookstown has also been designated as a special area to receive additional densities and to encourage investment in the area. North Hanover is exploring waste water treatment options for this area to spur revitalization and increased densities. A portion of this zone is also envisioned to be a village community with a mixture of single family homes, town houses, and apartments.

Jacobstown Special Zone: Jacobstown will also be designated as a special zone where developers can purchase TDR credits to increase densities on lots on the fringe of the existing village. This higher density development will enhance and compliment this town center which is currently home to the North Hanover School, community center, Township offices, and Fire Company. New development will utilize private septic systems which will restrict the maximum densities permitted and ensure that the density of the new development is in keeping with the character of the existing hamlet.

The following examples are two development scenarios under the TDR program. Like with the previous example, both Farm A and B are 100-acre farms.

TDR Option 1: Farm A (and Farm B) could choose to develop their land at the current density, which will likely be 1 unit per 25 acres. Under this option no farmland is preserved.

TDR Option 2: Farm B reaches an agreement with developer/redeveloper in the Special Zone and, through higher density bonuses, Farm B is able to capture the full equity of the land. Under this option, Farm B is preserved and the development is "sent" to an appropriate area.

These options all assume that the Special Zones will be identified in the new zoning as providing density bonuses for potential builders to encourage farmland preserve though TDR. If this does not occur, development will not be guided and farmland would be lost with no additional acreage preserved.

The Township is moving forward with the planning steps required to implement TDR. Several additional studies are required to implement TDR. The need for upgrades to the existing wastewater treatment systems created by increased densities in Sykesville and Cookstown will be one important component that will need to be addressed in order to implement TDR. It is estimated that the neighboring Wrightstown sewage plant has an excess capacity of 65,000 GPD (see attached Engineer's Report). This could accommodate a significant portion of the wastewater generated by the Sykesville Special area. The Jacobstown zone would most likely continue to utilize individual septic systems.

CONSISTENCY WITH HOUSING ELEMENT

The North Hanover Housing Element and Fair Share Plan was submitted to COAH in November 2005 and revised in August 2006 as part of the Township's request for Third Round Substantive Certification. The plan provides an overview of housing related demographics as well as projections for future residential and non residential growth in order to calculate the Township's affordable housing "growth share" which covers the period from 2004-2014. The Township's affordable housing obligation is calculated at 8 rehabilitation units, 1 prior round unit and 39 growth share units.

The Housing Element was under COAH review when a January 2007 Appellate Court decision was issued requiring COAH to revisit the growth share methodology. As a result, to date, COAH has not granted substantive certification. COAH issued proposed revised Round III rules in January 2008. These rules will not take effect until June 2008.

There are a total of 128 affordable units in three existing affordable housing developments in North Hanover. This exceeds the calculated growth share obligation so no additional affordable units are planned at this time.

While there is uncertainty about the exact COAH round III rules at this time, it is clear that any new development will generate an affordable housing obligation in the Township. It is recommended that North Hanover adopt a growth share ordinance that encompasses the entire Township. This growth share ordinance would require affordable units in any developments in the Floating Zone under NCPC and in receiving areas under TDR. The inclusionary zoning requirement and payment-in-lieu fees to should follow COAH's proposed rules and be updated when COAH's Round III rules are finalized in June 2008.

In addition to addressing the COAH obligation, the application of the same growth share ordinance Township-wide will encourage developers to concentrate development into the three

special areas rather than the floating zones. This is because the cost of developing one affordable unit in the special zones at a higher density will be significantly less than the costs in the floating zone.

CONCLUSION

North Hanover is a rural agricultural community facing development pressures that could permanently alter the character of the community. This Land Use Plan Element acknowledges that development is coming to North Hanover and recommends mechanisms to channel that development in order to maximize the preservation of agricultural areas as well as concentrate development in appropriate areas.

Four primary tools are discussed to achieve the goals. First, North Hanover will continue with efforts to preserve land through the County and State Farmland Preservation Programs. These are very successful programs and it is expected that additional land will be preserved through these programs. Second, the Township is drafting the Redevelopment Plan for the Sykesville Road area in order to ensure that redevelopment occurs in a manner consistent with the community's vision of mixed-use, mixed density village community. Third, the Township has initiated the complex process of establishing a TDR program. This 3-5 year planning process will create a comprehensive market driven approach to preserving agricultural land and developing three special receiving zones. NCPC, the fourth tool, can be initiated immediately and is complimentary to the TDR planning efforts. Prompt implementation of NCPC will encourage preservation and appropriate development during the TDR planning process. However, it is not a replacement for TDR and in the long run will not achieve the same preservation outcomes that are possible through TDR.

Appendix A:

Build Out Analysis

BUILDOUT ANALYSIS

PREPARED FOR

NORTH HANOVER TOWNSHIP
BURLINGTON COUNTY, NEW JERSEY

PREPARED BY

BURLINGTON COUNTY DEPARTMENT OF
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July 2007

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NORTH HANOVER TOWNSHIP
BURLINGTON COUNTY, NEW JERSEY
BUILDOUT ANALYSIS

Introduction

The Township of North Hanover, which covers approximately 17.39 square miles, is located in the northeastern portion of Burlington County, New Jersey that borders portions of Mercer, Monmouth and Ocean Counties to the north and east (Map 1). In Burlington County, Chesterfield Township and Springfield Township share North Hanover's western boundary. Wrightstown Borough and New Hanover Township, both in Burlington County, form North Hanover's southern boundaries.

In a regional context, North Hanover is about 10 miles southeast of Trenton, New Jersey, about 20 miles northeast of Center City Philadelphia, and about 35 miles southwest of Mid-Town Manhattan of New York City.

North Hanover is a rural community with a significant amount of active farming and large-scale agricultural operations. The community is covered with a preponderance of woodlands, open fields and cultivated fields. Notwithstanding it being rural, North Hanover has been experiencing changes that affect its rural landscape. To illustrate this change, from 1990 to 2000 the amount of agricultural and vacant (undeveloped) lands declined by 339 acres from 9,427 acres to 9,088 acres and the amount of residential lands increased by 108 acres from 876 acres to 985 acres.[1] Map 2 shows 2000 land use coverages in North Hanover.

Over the years, efforts have been made to preserve open space and farmland in the community. As of 2000 it is estimated that a total of 2,841 acres of land has been preserved, most of which is preserved farmland (2,813 acres).[2] Map 3 shows lands preserved in the Township. Of the 11,130 acres in the entire municipality 9,088 acres (81.7% of North Hanover) consist of undeveloped farmland or vacant land, and of the 9,088 acres only 2,841 acres (25.5% of the municipality) are preserved leaving 6,247 acres (56.1%) available for development. As it will be revealed in further discussion in this study, approximately 5,380 acres of land (48.3% of the community) are available for residential development under the R-A Residential/Agriculture zoning district. Concerns for the remaining undeveloped lands arise if these lands were to be converted into housing. One primary concern is the loss of viable agricultural lands and the potential loss of the agricultural industry in North Hanover. Another significant concern is the loss of the rural character of the community – the community would be transformed from a rural community to a low-density, sprawling residential suburban community. Many other concerns, i.e., impact to the environment, are paramount.

In order to develop a better understanding of what North Hanover may look like if it were to have its remaining developable lands built upon, a "buildout" analysis was prepared. This study examines more carefully the remaining undeveloped parcels of land in the context of environmental constraints and regulations of the Township's zoning ordinance. The primary focus of the study is placed upon the dominant zoning district, R-A Residential/Agriculture, which covers most of the community (Map 4).

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[1] 1990 and 2000 land use coverages were taken from reports prepared by the Delaware Valley Regional Planning Commission.

[2] 2000 preserved land use coverage was taken from a report prepared by the Delaware Valley Regional Planning Commission.

Assumptions

The buildout analysis prepared for North Hanover Township was prepared based on the following set of assumptions:

1. The buildout analysis will strive to calculate the maximum number of dwelling units based on current zoning in the RA Rural Agricultural zoning district. Underestimating the buildout potential will be avoided.
2. Parcels of land can be analyzed to determine future development potential, given parcel sizes, soil types, environmentally sensitive lands, and dwellings existing or lacking on parcels of land.
3. The RA Rural Agricultural zoning district is impacted by two types of soils that dictate density (dwelling units per acre) based on "septic suitability": (1) "good soils" permit one dwelling unit per two acres, and (2) "bad soils" permit one dwelling unit per five acres. "Good" and "bad" soils are based on New Jersey Department of Environmental Protection environmental sensitivity data (generally wet and slow percolating soils) and recent State Development and Redevelopment Plan Cross Acceptance mapping for the municipality.
4. Parcels of land greater than 10 acres and having "good" soils and parcels of land greater than 20 acres and having "bad" soils are treated as raw land regardless of having existing dwellings. This assumption maximizes, in general, lot yield and avoids inefficiencies due to the location of existing dwellings.
5. Smaller parcels of land having "good" and "bad" soils are to be treated differently than large parcels of land. Parcels smaller than 10 acres on "good" soils and parcels smaller than 20 acres on "bad" soil are excluded from the formula set forth below. To determine their new development potential, they are assumed to retain existing dwellings and their undeveloped portions of the parcel are applied to a sliding scale for development potential.
6. Environmentally sensitive lands include freshwater wetlands, 100-year floodplains and steep slopes greater than 15%. These environmental constraints for development are taken from current NJDEP mapping and federal floodplain mapping.
7. A coefficient for determining the "efficiency" of developing a parcel of land can be developed for "good" and "bad" soils. The coefficient was developed by actually laying out subdivisions of seven large parcels of land (most were greater than 100 acres in area) following the rules of the municipality's land development code to avoid any variances. An average coefficient was then calculated. The coefficient for two-acre lots in a subdivision was 0.75 meaning, in general, 75% of the developable lands would yield a two-acre lot and 25% of the developable lands would be dedicated to road rights-of-way and stormwater management facilities. For five-acre lots the coefficient was 0.80.
8. A mathematical formula can be developed to calculate buildout potential for the municipality.
9. Adding together the results of the formula applied to larger parcels and sliding scales for smaller parcels will result in the future buildout of the municipality.
10. Number of dwelling units is interchangeable with number of developable lots because one dwelling unit must be located on one developable lot. In essence, they have the same meaning for the buildout analysis.

Methodology

The methodology for preparing the buildout analysis employed (1) a computer-based geographic information system (GIS) to organize thematic geographic data and quantify the data in terms of area (acreage) of buildable lands and (2) a spreadsheet computer model to calculate an estimate of total buildable residential lots (dwelling units) from the amount of buildable lands.

In using GIS, all lands that were zoned AR were identified. From the AR lands all parcels that were permanently preserved as farmland or open space were removed from consideration for potential future buildout. Also removed were parcels owned by local, county, state and federal government. Parcels on which development had occurred and had no ability to produce additional buildable lots were removed. The net balance of AR zoned parcels of land consisted of

essentially agricultural lands, woodlands and vacant land – these types of land essentially comprise the lands that could produce future residential lots in the AR zone.

The net balance of AR zoned parcels were located in areas of North Hanover where soils were considered either "good" or "bad" for the absorption of treated effluent for individual septic systems that typically serve single-family dwellings. The "good" and "bad" soils were taken from soils mapping provided by the 2000 Master Plan for North Hanover and NJDEP GIS data layers. In essence, "good" soils provided a fast percolation rate, and "bad" soils had a slow one. In using GIS, the areas of the two types of soils were overlaid upon the net balance of AR zoned parcels of land.

In using GIS, environmentally sensitive lands that greatly restrict development were removed from the gross area (acreage). Environmentally sensitive lands included, as discussed above in assumptions no. 6, 100-year floodplains and steep slopes greater than 15%. By removing the environmentally portions of a parcel of land the net developable area of the parcel was determined. This step was undertaken on a parcel-by-parcel basis.

The first part of the methodology is summarized in the following formula:

Parcel of Land – Environmentally Sensitive Lands = Net Developable Land
(P in acres) (ES in acre) (acres)

The results of the foregoing steps of the first part of the methodology are manifested in the form of net developable land on Map 5.

In developing the second part of the methodology, the net developable land is converted into the number developable lots or, in other words, the number of dwelling units. This part is accomplished by multiplying the net developable land by the permitted density in the AR zone (dwelling units per acre) by an efficiency coefficient (the ability of a parcel of land unencumbered by environmental constraints to yield code-compliant lots given the need to set aside lands for road rights-of-way, stormwater management basins and the shape of the parcel). Assumption no. 7 explains how the coefficients were calculated.

The second part of the methodology is summarized in the following formula:

Net Developable Land x Permitted Density x Coefficient = Number of Dwellings
(acres) (DUs/acre) from Parcel of Land

Note: DUs means dwelling units

In order to calculate the number of buildout lot on developable land, two categories of parcels were created to distinguish the difference in potential between large parcels of land and small parcels of land. The large and small parcels were further subdivided into those on "good" and "bad" soils because the zoning requirements are different for the two – a minimum of two-acre lots are required for developments on "good" soils, and a minimum of five-acre lots are required for developments on "bad" soils.

Formulae were developed for larger parcels relative to "good" and "bad" soils, and sliding scales were created for smaller parcels as they related to soil type. Descriptions of the formulae and sliding scales are provided below.

<u>Formulae for Larger Parcels</u>

Parcels Greater than 10 acres on "Good" Soils

[P in acres – ES in acres] x 0.50 DUs/acre x 0.75 = DUs

Parcels Greater than 20 acres on "Bad" Soils

[P in acres – ES in acres] x 0.20 DUs/acre x 0.80 = DUs

Sliding Scales for Smaller Parcels

Parcels Less than 10 acres on "Good" Soils with No Dwellings

Parcel Size (acres)	Number of DUs
< 2	0
2-3	1
4-5	2
6-7	3
8-9	4

Parcels Less than 10 acres on "Good" Soils with Dwellings

Parcel Size (acres)	Number of DUs
< 5	0
2-3	1
4-5	2
6-7	3
8-9	4

Parcels Less than 20 acres on "Bad" Soils with No Dwellings

Parcel Size (acres)	Number of DUs
< 5	0
5-9	1
10-14	2
15-19	3

Parcels Less than 20 acres on "Bad" Soils with Dwellings

Parcel Size (acres)	Number of DUs
< 10	0
10-14	1
15-19	2

Analysis

The data generated by the GIS analysis in part one of the analyses was inserted into Excel spreadsheets with respective foregoing formulae and sliding scales. Table 1 provides a summary of the results of the buildout analysis. The total area of parcels of land in the AR zone that were found to be developable was 5,380.60 acres of which 4,023.43 acres had "good" soil and 1,357.17 acres had "bad" soil. The total amount of environmentally constrained lands was 1,757.60 acres thus leaving 3,559.49 acres of net developable lands (5,380.60 acres – 1,757.60 acres = 3,559.49 acres). For "good" soils 1,118.89 acres of land were environmentally constrained therefore resulting in 2,904.54 acres of net developable lands with "good" soil. With regard to "bad" soils 638.71 acres were environmentally constrained resulting in 718.46 acres of net developable lands with "bad" soil.

The analysis found the buildout potential of the AR zone in North Hanover to be 982 residential lots, which equates to 982 new single-family residential dwellings. The majority of these new lots have the potential to occur in the areas of the Township with "good" soils.

Specifically, 92.8% of the lots (911 lots) have the potential to occur in the areas with "good" soils with 7.2% (71 lots) in areas with "bad" soils. The concerns about losing farming, agriculture and rural character are underscored by the fact that the overwhelming majority of buildout occurring in the areas of the municipality with "good" soils that covers most of North Hanover's landscape that is in farming and provides the rural character that defines the community.

The appendices contain copies of the worksheets that show the results for each parcel of land by soil type and parcel size.

Table 1 – Summary of North Hanover Township Buildout Analysis

Soil	Dwelling	Dev. Area	Parcel Area	Env. Constraint Area	Net Dev. Area	Density	Lot	Coefficient	Dev. Lot
Good	Yes	< 10 Acres	855.07	244.66	556.34	-	-	-	53
Good	Yes	≥ 10 Acres	2266.46	570.24	1696.22	0.5	849	0.75	637
Good	No	< 10 Acres	208.81	84.32	124.48	-	-	-	42
Good	No	≥ 10 Acres	693.09	219.67	473.43	0.5	236	0.75	179
Poor	Yes	< 20 Acres	415.91	179.76	236.15	-	-	-	4
Poor	Yes	≥ 20 Acres	248.06	100.41	147.65	0.2	30	0.8	23
Poor	No	< 20 Acres	397.02	263.71	133.31	-	-	-	13
Poor	No	≥ 20 Acres	296.18	94.83	191.91	0.2	38	0.8	31
Total			**5380.60**	**1757.60**	**3559.49**				**982**

* Area in Acres

APPENDICES

APPENDIX A

Good Soil, with Dwelling, Developable Area < 10 Acres

NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Dev. Lot
26100-1.02	100	1.02	1.21	0.00	1.21	0
26100-1.03	100	1.03	4.01	0.64	3.36	0
26101-17	101	17	8.73	0.00	8.73	3
26101-28	101	28	3.34	2.60	0.73	0
26101-4	101	4	9.91	1.12	8.79	3
26101-5	101	5	3.22	1.71	1.51	0
26101-51	101	51	2.11	0.92	1.18	0
26101-6.01	101	6.01	2.18	0.00	2.18	0
26101-6.02	101	6.02	2.77	0.50	2.26	0
26101-7.01	101	7.01	2.10	0.00	2.10	0
26101-7.02	101	7.02	5.40	1.85	3.55	0
26101-8	101	8	9.62	2.91	6.70	1
26101-9.01	101	9.01	6.03	2.43	3.60	0
26102-10	102	10	1.31	0.11	1.19	0
26102-11	102	11	1.23	0.00	1.23	0
26102-12	102	12	1.12	0.00	1.12	0
26102-13	102	13	1.03	0.00	1.03	0
26102-14	102	14	4.26	2.96	1.30	0
26102-15	102	15	2.15	1.60	0.55	0
26102-16	102	16	1.82	0.42	1.40	0
26102-17	102	17	1.07	0.00	1.07	0
26102-2	102	2	1.66	0.00	1.66	0
26102-3	102	3	1.20	0.00	1.20	0
26102-6.01	102	6.01	7.51	5.63	1.88	0
26102-6.02	102	6.02	8.17	1.75	6.43	1
26102-7	102	7	1.68	0.15	1.52	0
26102-8	102	8	1.57	0.12	1.45	0
26102-9	102	9	1.50	0.32	1.18	0

26200-2.01	200	2.01	0.95	0.00	0.95	0
26200-2.02	200	2.02	1.54	0.00	1.54	0
26200-3	200	3	0.58	0.00	0.58	0
26201-10.01	201	10.01	1.15	0.88	0.27	0
26201-10.02	201	10.02	1.04	0.00	1.04	0
26201-12.04	201	12.04	2.64	0.00	2.64	0
26201-12.05	201	12.05	3.96	0.48	3.48	0
26201-12.06	201	12.06	2.75	0.12	2.63	0
26201-12.07	201	12.07	5.56	0.25	5.31	1
26201-12.08	201	12.08	4.32	1.75	2.57	0
26201-12.19	201	12.19	4.37	2.77	1.59	0
26201-12.20	201	12.2	3.19	2.17	1.02	0
26201-12.21	201	12.21	2.90	2.49	0.41	0
26201-12.22	201	12.22	3.04	2.06	0.97	0
26201-12.23	201	12.23	4.80	0.45	4.36	0
26201-12.24	201	12.24	2.01	0.00	2.01	0
26201-12.25	201	12.25	2.00	0.00	2.00	0
26201-12.26	201	12.26	1.95	0.00	1.95	0
26201-12.27	201	12.27	5.00	0.00	5.00	0
26201-13	201	13	1.14	0.00	1.14	0
26201-14	201	14	1.41	0.00	1.41	0
26201-15	201	15	0.78	0.00	0.78	0
26201-16	201	16	1.75	0.00	1.75	0
26201-18	201	18	9.91	1.81	8.10	3
26201-2.01	201	2.01	1.82	0.00	1.82	0
26201-2.02	201	2.02	1.71	0.00	1.71	0
26201-20.01	201	20.01	2.78	0.73	2.05	0
26201-20.02	201	20.02	1.93	0.72	1.22	0
26201-21	201	21	3.26	2.01	1.24	0
26201-26	201	26	0.28	0.00	0.28	0
26201-27	201	27	0.36	0.01	0.35	0
26201-28	201	28	0.37	0.07	0.31	0
26201-29	201	29	0.38	0.17	0.21	0

26201-31	201	31	1.75	0.00	1.75	0
26201-32	201	32	0.45	0.00	0.45	0
26201-33	201	33	0.44	0.00	0.44	0
26201-34	201	34	1.04	0.00	1.04	0
26300-1	300	1	1.72	0.79	0.93	0
26300-10	300	10	0.94	0.08	0.86	0
26300-11	300	11	1.96	1.25	0.71	0
26300-12.01	300	12.01	2.99	1.97	1.02	0
26300-12.02	300	12.02	1.65	1.16	0.49	0
26300-13.01	300	13.01	2.23	1.07	1.16	0
26300-13.02	300	13.02	1.94	1.80	0.14	0
26300-15	300	15	5.34	2.39	2.95	0
26300-16	300	16	0.29	0.00	0.29	0
26300-17	300	17	0.24	0.00	0.24	0
26300-18	300	18	0.23	0.00	0.23	0
26300-19	300	19	13.57	7.67	5.90	1
26300-2.01	300	2.01	2.02	0.00	2.02	0
26300-2.02	300	2.02	1.38	0.00	1.38	0
26300-2.03	300	2.03	2.10	0.00	2.10	0
26300-2.04	300	2.04	2.05	0.00	2.05	0
26300-20	300	20	17.04	8.41	8.62	3
26300-21.01	300	21.01	2.81	0.48	2.33	0
26300-21.02	300	21.02	1.99	0.32	1.67	0
26300-23	300	23	0.78	0.00	0.78	0
26300-24	300	24	0.73	0.00	0.73	0
26300-25	300	25	1.98	0.09	1.89	0
26300-26.01	300	26.01	5.14	1.07	4.06	0
26300-26.02	300	26.02	5.64	0.48	5.16	1
26300-26.03	300	26.03	5.02	0.23	4.79	0
26300-27	300	27	16.62	10.00	6.62	1
26300-28	300	28	1.03	0.00	1.03	0
26300-29	300	29	2.02	0.34	1.68	0
26300-3	300	3	1.03	0.00	1.03	0

26300-30	300	30	0.59	0.00	0.59	0
26300-31	300	31	0.98	0.00	0.98	0
26300-4	300	4	1.18	0.00	1.18	0
26300-5	300	5	2.59	0.00	2.59	0
26300-66	300	66	0.88	0.00	0.88	0
26300-7	300	7	8.53	5.33	3.20	0
26300-9	300	9	1.35	0.87	0.48	0
26301-11	301	11	3.95	0.00	3.95	0
26301-13	301	13	0.68	0.00	0.68	0
26301-14.04	301	14.04	3.57	1.11	2.46	0
26301-14.05	301	14.05	3.73	0.18	3.55	0
26301-14.07	301	14.07	3.22	0.00	3.22	0
26301-15	301	15	12.92	4.18	8.74	3
26301-15.01	301	15.01	1.60	0.00	1.60	0
26301-16	301	16	2.46	1.05	1.41	0
26301-17	301	17	1.84	0.00	1.84	0
26301-2	301	2	0.59	0.09	0.50	0
26301-21	301	21	2.77	0.16	2.61	0
26301-22	301	22	2.32	0.00	2.32	0
26301-23.02	301	23.02	1.09	0.00	1.09	0
26301-24.01	301	24.01	4.84	0.75	4.09	0
26301-24.02	301	24.02	1.99	0.00	1.99	0
26301-25	301	25	3.22	0.87	2.35	0
26301-26	301	26	9.87	2.18	7.69	2
26301-4	301	4	0.82	0.00	0.82	0
26301-43	301	43	1.57	0.56	1.01	0
26301-44	301	44	0.26	0.00	0.26	0
26301-45	301	45	0.25	0.00	0.25	0
26301-46	301	46	0.43	0.00	0.43	0
26301-5.02	301	5.02	4.83	0.05	4.78	0
26301-5.03	301	5.03	3.14	0.00	3.14	0
26301-5.04	301	5.04	2.06	0.00	2.06	0
26301-5.05	301	5.05	8.16	1.13	7.03	2

26301-5.06	301	5.06	13.46	5.45	8.01	3
26301-5.07	301	5.07	9.90	3.76	6.14	1
26400-1	400	1	2.68	1.63	1.06	0
26400-13	400	13	0.77	0.01	0.76	0
26400-15	400	15	9.91	0.00	9.91	3
26400-24.01	400	24.01	2.00	0.67	1.33	0
26400-24.02	400	24.02	2.02	1.01	1.01	0
26400-24.03	400	24.03	3.41	0.94	2.47	0
26400-25.01	400	25.01	2.06	0.78	1.28	0
26400-25.02	400	25.02	2.06	1.07	1.00	0
26400-38	400	38	4.57	0.00	4.57	0
26400-41.01	400	41.01	14.22	8.11	6.10	1
26400-41.02	400	41.02	7.30	5.12	2.18	0
26400-41.03	400	41.03	6.68	4.93	1.76	0
26400-41.05	400	41.05	7.45	0.69	6.76	1
26400-45	400	45	5.53	4.12	1.42	0
26400-49	400	49	4.80	4.08	0.72	0
26400-8	400	8	0.67	0.00	0.67	0
26402-10	402	10	0.65	0.00	0.65	0
26403-10	403	10	0.67	0.00	0.67	0
26403-12	403	12	0.90	0.21	0.70	0
26403-7	403	7	103.78	40.27	9.44	4
26403-8	403	8	4.05	1.55	2.50	0
26403-8.01	403	8.01	2.75	1.75	1.00	0
26500-10	500	10	3.38	0.00	3.38	0
26500-11	500	11	3.90	0.00	3.90	0
26500-12	500	12	2.57	0.00	2.57	0
26500-13	500	13	4.62	0.00	4.62	0
26500-14	500	14	0.45	0.00	0.45	0
26500-15	500	15	0.34	0.00	0.34	0
26500-16	500	16	4.17	0.00	4.17	0
26500-17	500	17	1.52	0.00	1.52	0
26500-18.01	500	18.01	1.96	0.00	1.96	0

26500-18.04	500	18.04	1.02	0.00	1.02	0
26500-18.05	500	18.05	1.05	0.00	1.05	0
26500-18.06	500	18.06	0.98	0.00	0.98	0
26500-19.03	500	19.03	2.85	0.00	2.85	0
26500-21	500	21	17.89	9.18	8.71	3
26500-29	500	29	4.80	0.08	4.72	0
26500-30	500	30	1.30	0.00	1.30	0
26500-31.01	500	31.01	1.08	0.00	1.08	0
26500-31.02	500	31.02	1.81	0.00	1.81	0
26500-31.04	500	31.04	1.04	0.00	1.04	0
26500-31.05	500	31.05	1.03	0.00	1.03	0
26500-34	500	34	0.37	0.00	0.37	0
26500-35	500	35	2.03	0.00	2.03	0
26500-36	500	36	6.00	0.00	6.00	1
26500-39	500	39	2.40	0.00	2.40	0
26500-40	500	40	1.80	0.00	1.80	0
26500-41	500	41	1.67	0.00	1.67	0
26500-43.01	500	43.01	1.02	0.00	1.02	0
26500-43.02	500	43.02	6.08	1.73	4.36	0
26500-45	500	45	2.01	0.00	2.01	0
26500-50	500	50	2.96	0.40	2.56	0
26500-51.01	500	51.01	1.50	0.00	1.50	0
26500-51.02	500	51.02	2.54	0.00	2.54	0
26500-51.03	500	51.03	0.82	0.00	0.82	0
26500-51.04	500	51.04	2.26	0.00	2.26	0
26500-51.05	500	51.05	2.25	0.00	2.25	0
26500-51.06	500	51.06	2.17	0.17	2.00	0
26500-66.02	500	66.02	6.34	5.15	1.19	0
26500-9.02	500	9.02	6.52	0.00	6.52	1
26501-1.01	501	1.01	0.72	0.00	0.72	0
26501-1.03	501	1.03	0.64	0.00	0.64	0
26501-1.04	501	1.04	0.68	0.00	0.68	0
26501-1.05	501	1.05	0.77	0.00	0.77	0

26501-1.06	501	1.06	2.07	0.00	2.07	0
26501-1.07	501	1.07	1.87	0.00	1.87	0
26501-1.08	501	1.08	1.85	0.00	1.85	0
26501-10	501	10	0.79	0.00	0.79	0
26501-11	501	11	0.94	0.00	0.94	0
26501-12	501	12	0.95	0.00	0.95	0
26501-13	501	13	0.97	0.00	0.97	0
26501-14	501	14	0.94	0.00	0.94	0
26501-16	501	16	6.37	0.15	6.22	1
26501-2	501	2	7.49	0.00	7.49	2
26501-2.01	501	2.01	1.85	0.00	1.85	0
26501-20	501	20	9.45	7.50	1.95	0
26501-21	501	21	9.25	3.07	6.19	1
26501-30	501	30	2.77	0.00	2.77	0
26501-35	501	35	2.14	0.00	2.14	0
26501-37	501	37	0.90	0.00	0.90	0
26501-4	501	4	0.68	0.00	0.68	0
26501-5.01	501	5.01	3.53	0.00	3.53	0
26501-5.02	501	5.02	11.37	5.05	6.33	1
26501-5.03	501	5.03	2.93	0.00	2.93	0
26501-5.04	501	5.04	2.98	0.72	2.26	0
26501-5.05	501	5.05	2.87	0.19	2.68	0
26501-9	501	9	0.74	0.00	0.74	0
26601-5	601	5	0.33	0.00	0.33	0
26601-9	601	9	3.38	1.47	1.90	0
26603-6.01	603	6.01	2.35	0.00	2.35	0
26603-6.02	603	6.02	3.71	1.54	2.17	0
26603-6.03	603	6.03	3.56	0.77	2.79	0
26603-7	603	7	3.01	0.00	3.01	0
26603-8	603	8	1.02	0.00	1.02	0
26604-1	604	1	12.14	6.31	5.84	1
26604-17	604	17	0.66	0.00	0.66	0
26604-2	604	2	0.91	0.05	0.86	0

26604-6	604	6	14.10	4.72	9.38	3
26608-5.01	608	5.01	1.09	0.59	0.50	0
26608-5.02	608	5.02	1.98	0.00	1.98	0
26700-11.01	700	11.01	1.11	0.00	1.11	0
26700-14	700	14	5.48	0.61	4.87	0
26700-14.03	700	14.03	1.05	0.17	0.88	0
26700-16	700	16	0.95	0.05	0.89	0
26700-17	700	17	0.82	0.00	0.82	0
26700-18	700	18	0.82	0.00	0.82	0
26700-4	700	4	10.40	4.04	6.36	1
26700-6	700	6	2.27	0.00	2.27	0
26700-9	700	9	0.64	0.00	0.64	0
Total			**855.07**	**244.66**	**556.34**	**53**

APPENDIX B

Good Soil, with Dwelling, Developable Area ≥ 10 Acres

NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Density	Lot	Coefficient	Dev. Lot
26100-1.01	100	1.01	145.14	50.22	94.92	0.5	47	0.75	36
26101-30	101	30	85.90	41.41	44.49	0.5	22	0.75	17
26101-9	101	9	11.28	0.61	10.67	0.5	5	0.75	4
26200-1	200	1	156.58	34.93	121.65	0.5	61	0.75	46
26200-4	200	4	42.26	6.78	35.49	0.5	18	0.75	13
26201-12.01	201	12.01	10.77	0.00	10.77	0.5	5	0.75	4
26201-12.02	201	12.02	13.06	0.00	13.06	0.5	7	0.75	5
26201-12.03	201	12.03	14.10	3.24	10.86	0.5	5	0.75	4
26201-17	201	17	14.41	0.15	14.27	0.5	7	0.75	5
26201-24	201	24	164.72	39.46	125.27	0.5	63	0.75	47
26201-3	201	3	46.81	11.88	34.93	0.5	17	0.75	13
26300-14	300	14	129.02	21.68	107.34	0.5	54	0.75	40
26300-8	300	8	267.52	77.44	190.08	0.5	95	0.75	71
26300-8.01	300	8.01	23.44	6.37	17.07	0.5	9	0.75	6
26301-1	301	1	166.67	29.32	137.35	0.5	69	0.75	52
26301-23.01	301	23.01	18.36	3.02	15.34	0.5	8	0.75	6
26301-47	301	47	14.95	1.46	13.49	0.5	7	0.75	5
26301-8	301	8	107.95	31.65	76.30	0.5	38	0.75	29
26400-10	400	10	23.92	6.74	17.18	0.5	9	0.75	6
26400-44	400	44	24.23	0.86	23.37	0.5	12	0.75	9
26400-5	400	5	35.48	22.33	13.15	0.5	7	0.75	5
26400-6	400	6	53.22	13.46	39.77	0.5	20	0.75	15
26500-43	500	43	15.73	4.50	11.23	0.5	6	0.75	4
26500-44	500	44	11.37	0.44	10.93	0.5	5	0.75	4
26500-9	500	9	73.38	1.23	72.15	0.5	36	0.75	27
26501-8	501	8	12.75	0.17	12.59	0.5	6	0.75	5
26603-5	603	5	95.76	43.31	52.45	0.5	26	0.75	20
26604-1	604	1	12.14	0.00	12.14	0.5	6	0.75	5

26604-7	604	7	126.66	29.40	97.27	0.5	49	0.75	36
26604-8.01	604	8.01	23.00	4.52	18.48	0.5	9	0.75	7
26608-4	608	4	10.50	0.24	10.25	0.5	5	0.75	4
26608-5	608	5	34.54	11.87	22.67	0.5	11	0.75	9
26700-10	700	10	130.68	31.46	99.22	0.5	50	0.75	37
26700-13	700	13	150.16	40.12	110.03	0.5	55	0.75	41
Total			**2266.46**	**570.24**	**1696.22**		**849**		**637**

APPENDIX C

Good Soil, no Dwelling, Developable Area < 10 Acres

NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Dev. Lot
26100-1.04	100	1.04	2.51	1.90	0.61	0
26102-1	102	1	0.46	0.18	0.28	0
26102-1.01	102	1.01	0.56	0.00	0.56	0
26102-6	102	6	13.60	5.74	7.85	3
26201-12.18	201	12.18	4.25	3.19	1.05	0
26201-12.29	201	12.29	0.46	0.00	0.46	0
26201-12.31	201	12.31	0.25	0.00	0.25	0
26201-2	201	2	2.09	0.00	2.09	1
26201-22	201	22	8.35	6.66	1.68	0
26300-1.01	300	1.01	1.29	0.68	0.61	0
26301-14.06	301	14.06	3.65	0.00	3.65	1
26301-16	301	18	1.68	0.49	1.18	0
26301-26	301	26	1.66	0.02	1.64	0
26301-4.01	301	4.01	0.79	0.00	0.79	0
26301-4.02	301	4.02	6.06	1.53	4.53	2
26301-5.01	301	5.01	1.29	0.00	1.29	0
26301-6	301	7	0.29	0.00	0.29	0
26301-6	301	12	5.30	0.00	5.30	2
26400-1	400	2	1.00	0.42	0.58	0
26400-11	400	11	6.03	2.54	3.49	1
26400-14	400	14	0.24	0.00	0.24	0
26400-37	400	37	0.12	0.00	0.12	0
26400-41.04	400	41.04	6.94	4.73	2.21	1
26400-42	400	42	1.43	0.44	0.98	0
26400-43	400	43	0.85	0.03	0.82	0
26402-7	402	7	19.01	15.64	3.37	1
26403-11	403	11	0.32	0.00	0.32	0

26403-9	403	9	2.34	2.10	0.24	0
26500-18.02	500	18.02	11.22	4.41	6.82	3
26500-18.03	500	18.03	11.60	2.30	9.30	4
26500-19.02	500	19.02	6.95	0.00	6.95	3
26500-27	500	28	2.79	0.07	2.72	1
26500-31.03	500	31.03	1.89	0.00	1.89	0
26500-32	500	32	5.77	0.22	5.55	2
26500-33	500	33	9.82	0.42	9.40	4
26500-66.01	500	66.01	19.36	14.33	5.03	2
26501-23	501	23	4.79	0.00	4.79	2
26501-23	501	31	1.05	0.00	1.05	0
26600-2	600	2	16.64	7.76	8.88	4
26600-2	600	3	4.04	3.19	0.85	0
26600-5	600	5	8.77	0.00	8.77	4
26601-8	601	8	8.45	5.09	3.36	1
26603-5	603	3	1.72	0.23	1.49	0
26700-12	700	12	1.17	0.00	1.17	0
Total			**208.81**	**84.32**	**124.48**	**42**

APPENDIX D

Good Soil, no Dwelling, Developable Area ≥ 10 Acres

NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Density	Lot	Coefficient	Dev. Lot
26101-2	101	2	88.94	46.32	42.62	0.5	21	0.75	16
26201-10	201	10	107.14	22.62	84.53	0.5	42	0.75	32
26201-23	201	23	19.98	1.18	18.80	0.5	9	0.75	7
26301-14.03	301	14.03	52.74	11.95	40.79	0.5	20	0.75	15
26400-12	400	12	71.20	19.06	52.14	0.5	26	0.75	20
26400-40	400	40	36.03	20.27	15.77	0.5	8	0.75	6
26400-7	400	7	28.92	2.82	26.10	0.5	13	0.75	10
26403-1	403	1	133.23	48.15	85.08	0.5	43	0.75	32
26500-37	500	37	16.19	0.81	15.38	0.5	8	0.75	6
26600-1	600	1	18.04	1.88	16.16	0.5	8	0.75	6
26600-4	600	4	49.64	16.24	33.40	0.5	17	0.75	13
26601-1	601	1	16.42	0.00	16.42	0.5	8	0.75	6
26603-1	603	1	54.62	28.37	26.24	0.5	13	0.75	10
Total			**693.09**	**219.67**	**473.43**		**236**		**179**

APPENDIX E

Poor Soil, with Dwelling, Developable Area < 20 Acres

NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Dev. Lot
26403-13	403	13	1.93	0.00	1.93	0
26800-1	800	1	1.64	0.78	0.86	0
26800-10	800	10	2.07	1.02	1.05	0
26800-11	800	11	3.95	1.54	2.41	0
26800-13.01	800	13.01	0.97	0.18	0.78	0
26800-13.02	800	13.02	1.04	0.00	1.04	0
26800-14	800	14	0.83	0.01	0.82	0
26800-15	800	19	2.23	0.00	2.23	0
26800-17	800	17	16.52	9.09	7.43	0
26800-2	800	2	1.46	0.08	1.38	0
26800-20	800	20	0.44	0.00	0.44	0
26800-21	800	21	0.62	0.00	0.62	0
26800-25	800	25	40.54	23.06	17.48	2
26800-26	800	26	0.36	0.00	0.36	0
26800-31	800	31	0.90	0.00	0.90	0
26800-34	800	34	5.25	1.75	3.49	0
26800-36	800	36	13.84	4.60	9.24	0
26800-37	800	37	1.10	0.00	1.10	0
26800-38	800	38	0.98	0.00	0.98	0
26800-4	800	4	4.98	3.42	1.56	0
26800-41	800	41	2.84	0.00	2.84	0
26800-42	800	42	0.73	0.00	0.73	0
26800-43	800	43	0.47	0.00	0.47	0
26800-44	800	44	0.80	0.00	0.80	0
26800-45	800	45	3.60	0.00	3.60	0
26800-46	800	46	0.25	0.00	0.25	0

26800-47	800	47	0.38	0.00	0.38	0
26800-5	800	5	9.65	8.59	1.06	0
26800-55	800	55	18.19	12.97	5.22	0
26800-56	800	56	1.98	1.14	0.84	0
26800-58	800	58	0.26	0.00	0.26	0
26800-59	800	59	20.29	17.07	3.22	0
26800-59.01	800	59.01	1.35	0.06	1.29	0
26800-6	800	6	3.53	2.29	1.24	0
26800-60	800	60	14.96	13.44	1.52	0
26800-61	800	61	1.35	0.47	0.89	0
26800-64.02	800	64.02	6.07	3.04	3.03	0
26800-64.03	800	64.03	5.83	3.51	2.32	0
26800-7	800	7	1.21	0.55	0.66	0
26800-71	800	71	0.34	0.00	0.34	0
26800-9	800	9	18.12	15.75	2.37	0
26802-10	802	10	3.05	0.51	2.54	0
26802-3	802	3	14.82	8.71	6.11	0
26802-5	802	5	18.38	9.12	9.27	0
26802-5	802	5	18.38	6.07	12.32	1
26802-6	802	6	4.88	0.48	4.40	0
26802-7	802	7	4.05	0.02	4.03	0
26802-8	802	8	4.56	0.00	4.56	0
26802-9	802	9	0.25	0.00	0.25	0
26803-10	803	10	1.58	0.00	1.58	0
26803-11	803	11	0.33	0.00	0.33	0
26803-2.01	803	2.01	2.79	0.53	2.26	0
26803-28	803	28	2.46	0.02	2.44	0
26803-4	803	4	7.22	3.35	3.87	0
26803-5	803	5	2.60	0.04	2.57	0
26803-6	803	6	5.98	1.55	4.44	0
26803-7	803	7	0.91	0.00	0.91	0
26803-8	803	8	0.22	0.00	0.22	0
26803-9	803	9	4.05	2.37	1.67	0

26900-1	900	1	0.73	0.04	0.69	0
26900-4	900	4	1.23	0.28	0.95	0
26901-2	901	2	0.46	0.00	0.46	0
26901-3	901	3	1.59	0.00	1.59	0
26901-3.01	901	3.01	1.74	0.00	1.74	0
26901-4	901	4	0.56	0.00	0.56	0
26901-5	901	5	3.31	0.46	2.85	0
26901-6.01	901	6.01	6.68	0.00	6.68	0
26901-6.02	901	6.02	5.88	0.00	5.88	0
26901-6.03	901	6.03	8.24	1.61	6.63	0
26901-7	901	8	3.62	0.01	3.62	0
26902-1	902	1	11.14	1.88	9.26	0
26902-15	902	15	1.00	0.00	1.00	0
26902-16	902	16	0.91	0.00	0.91	0
26902-18	902	18	0.27	0.00	0.27	0
26902-19	902	19	14.17	0.52	13.65	1
26902-24	902	24	0.74	0.35	0.39	0
26902-26	902	26	1.30	0.00	1.30	0
26902-27	902	27	1.78	0.00	1.78	0
26902-3	902	3	10.70	0.73	9.97	0
26902-31	902	31	2.62	0.60	2.01	0
26902-6	902	6	16.27	13.27	2.99	0
26902-6	902	10	4.83	1.07	3.76	0
26902-6	902	8	5.81	1.77	4.04	0
Total			**415.91**	**179.76**	**236.15**	**4**

APPENDIX F

Poor Soil, with Dwelling, Developable Area ≥ 20 Acres

NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Density	Lot	Coefficient	Dev. Lot
26800-16	800	16	42.9	22.67	20.21	0.2	4	0.8	3
26901-1.01	901	1.01	30.5	4.80	25.66	0.2	5	0.8	4
26902-11	902	11	81.7	38.88	42.82	0.2	9	0.8	7
26902-12	902	12	93.0	34.05	58.97	0.2	12	0.8	9
			248.06	**100.41**	**147.65**		**30**		**23**

APPENDIX G

Poor Soil, no Dwelling, Developable Area < 20 Acres

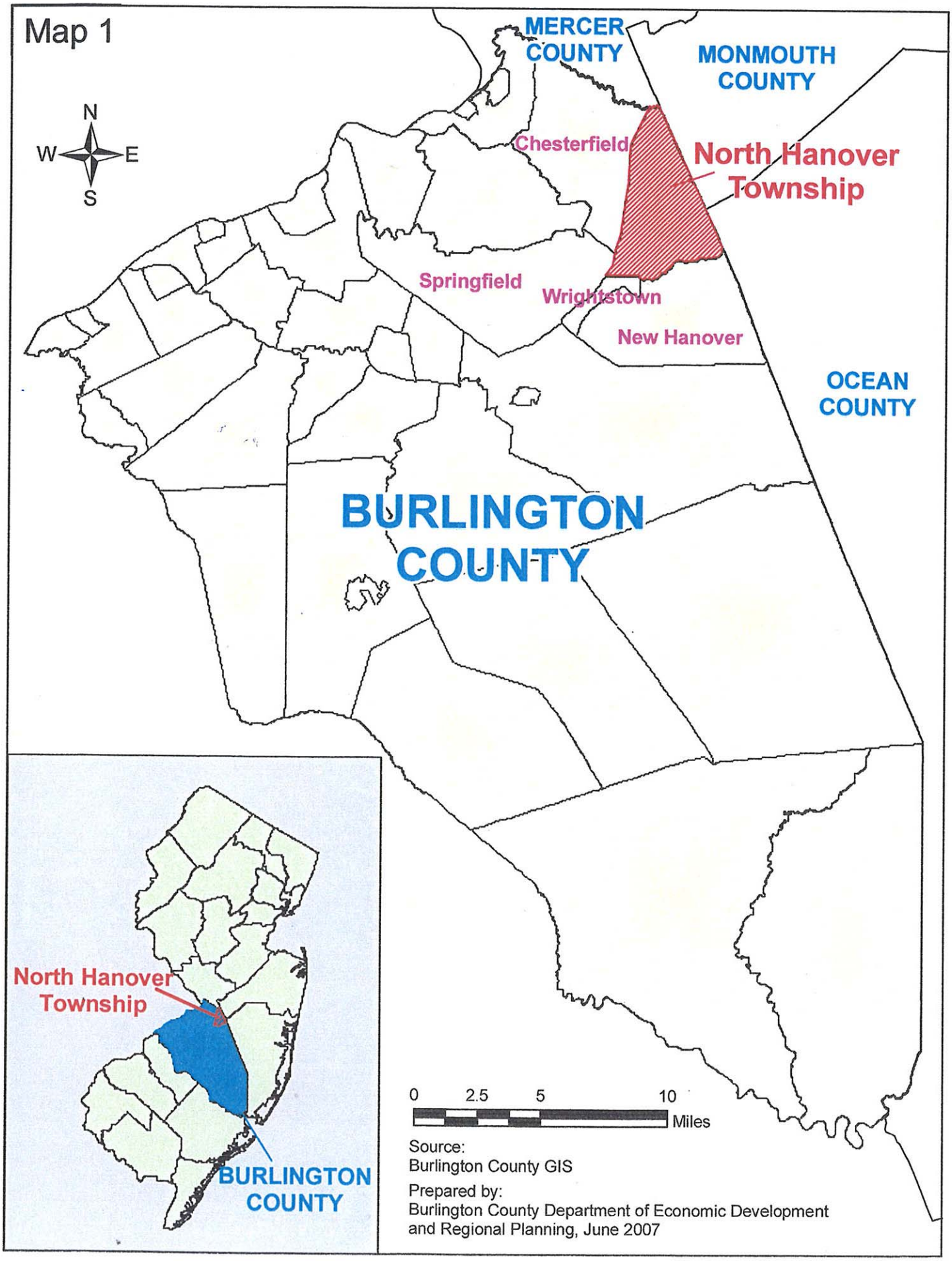
NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Dev. Lot
26700-13	700	15	0.77	0.69	0.08	0
26800-15	800	15	2.41	0.71	1.70	0
26800-23	800	23	0.20	0.00	0.20	0
26800-24	800	24	0.12	0.00	0.12	0
26800-27	800	27	4.49	0.12	4.37	0
26800-28	800	28	4.98	4.61	0.37	0
26800-29	800	29	39.52	24.73	14.80	2
26800-3	800	3	0.51	0.00	0.51	0
26800-32	800	32	0.50	0.28	0.23	0
26800-33	800	33	10.58	1.28	9.30	1
26800-35	800	35	2.90	0.00	2.90	0
26800-49	800	49	21.34	15.32	6.01	1
26800-61.02	800	61.02	2.40	2.22	0.18	0
26800-64.01	800	64.01	7.92	3.78	4.13	0
26800-69	800	69	4.95	0.53	4.42	0
26800-73	800	73	9.92	6.40	3.52	0
26800-8	800	8	3.81	3.30	0.51	0
26900-3	900	3	0.36	0.09	0.27	0
26900-5	900	5	3.93	2.50	1.43	0
26901-1	901	1	22.35	4.03	18.32	3
26901-7	901	7	3.64	0.07	3.57	0
26902-13	902	13	1.14	0.00	1.14	0
26902-14	902	14	0.72	0.00	0.72	0
26902-2	902	2	44.41	33.88	10.53	2
26902-2.01	902	2.01	4.78	3.40	1.37	0
26902-2.02	902	2.02	4.83	1.63	3.20	0

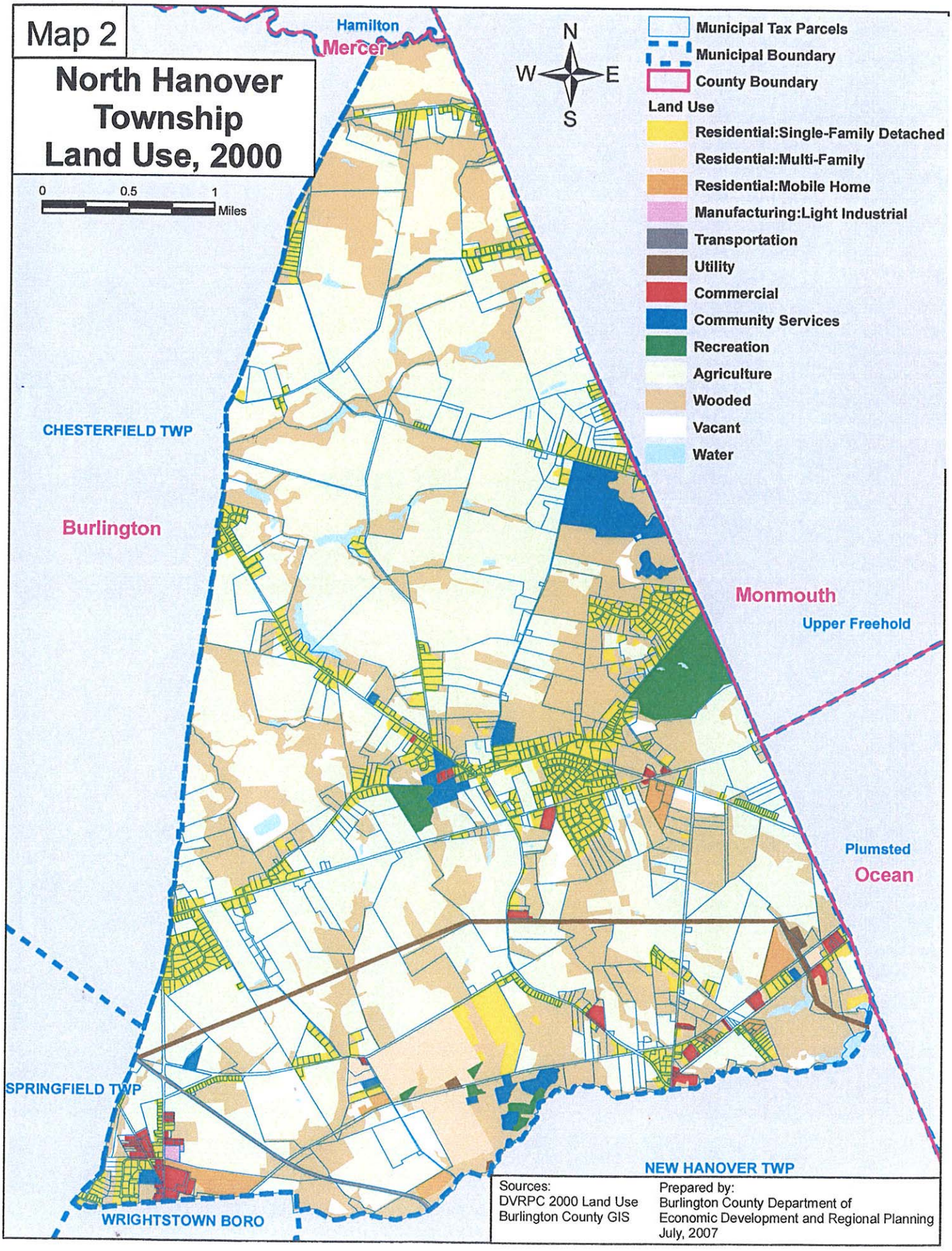
26902-21	902	21	3.32	0.00	3.32	0
26902-22	902	22	5.54	0.00	5.54	1
26902-26	902	17	0.72	0.00	0.72	0
26902-28	902	28	1.00	0.00	1.00	0
26902-29	902	29	0.99	0.00	0.99	0
26902-3	902	25	4.54	3.50	1.04	0
26902-4	902	4	39.27	25.42	13.85	2
26902-5	902	5	106.11	101.05	5.06	1
26902-7	902	7	20.84	18.50	2.34	0
26903-9	903	9	1.96	0.03	1.93	0
26904-7	904	7	9.24	5.63	3.61	0
Total			**397.02**	**263.71**	**133.31**	**13**

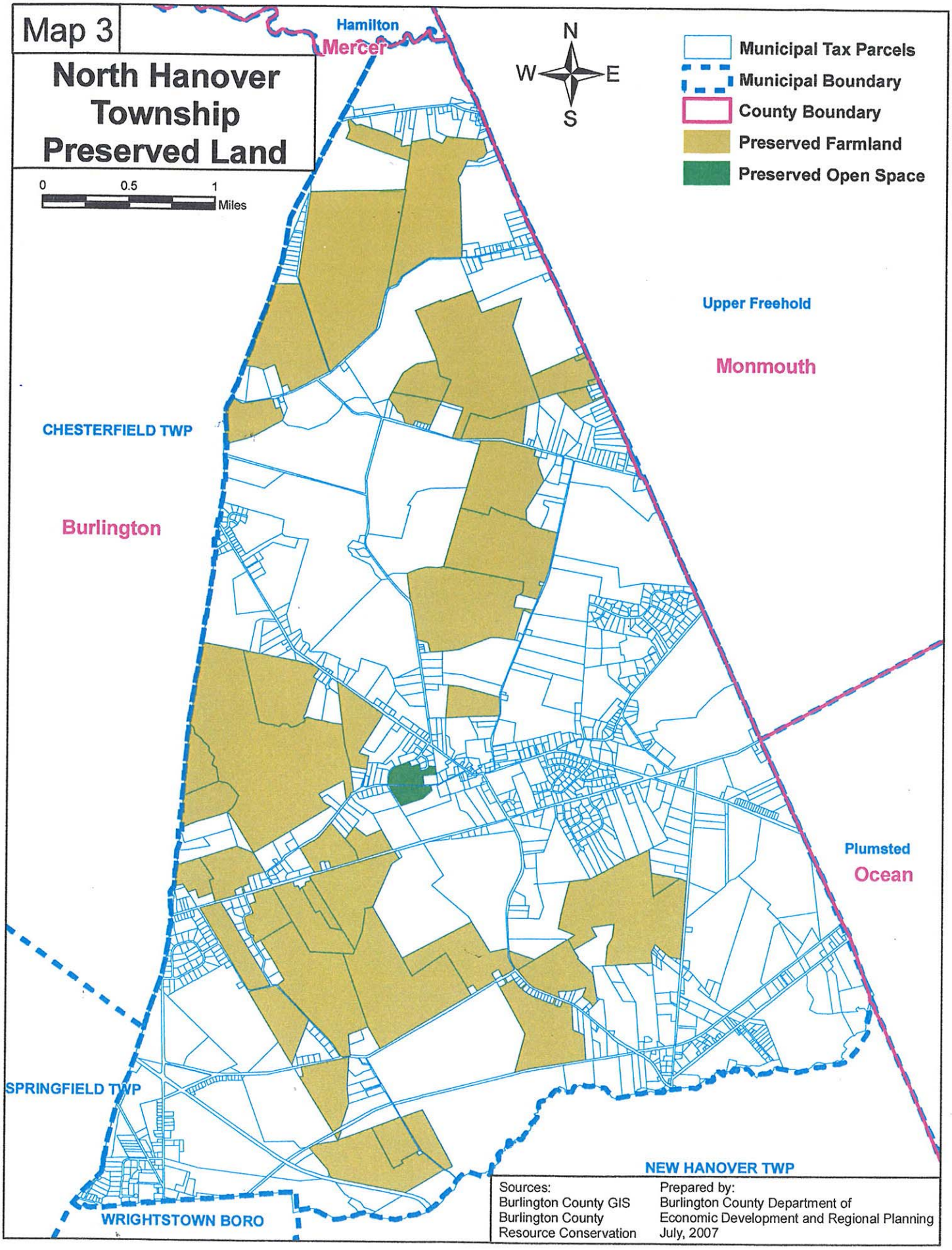
APPENDIX H

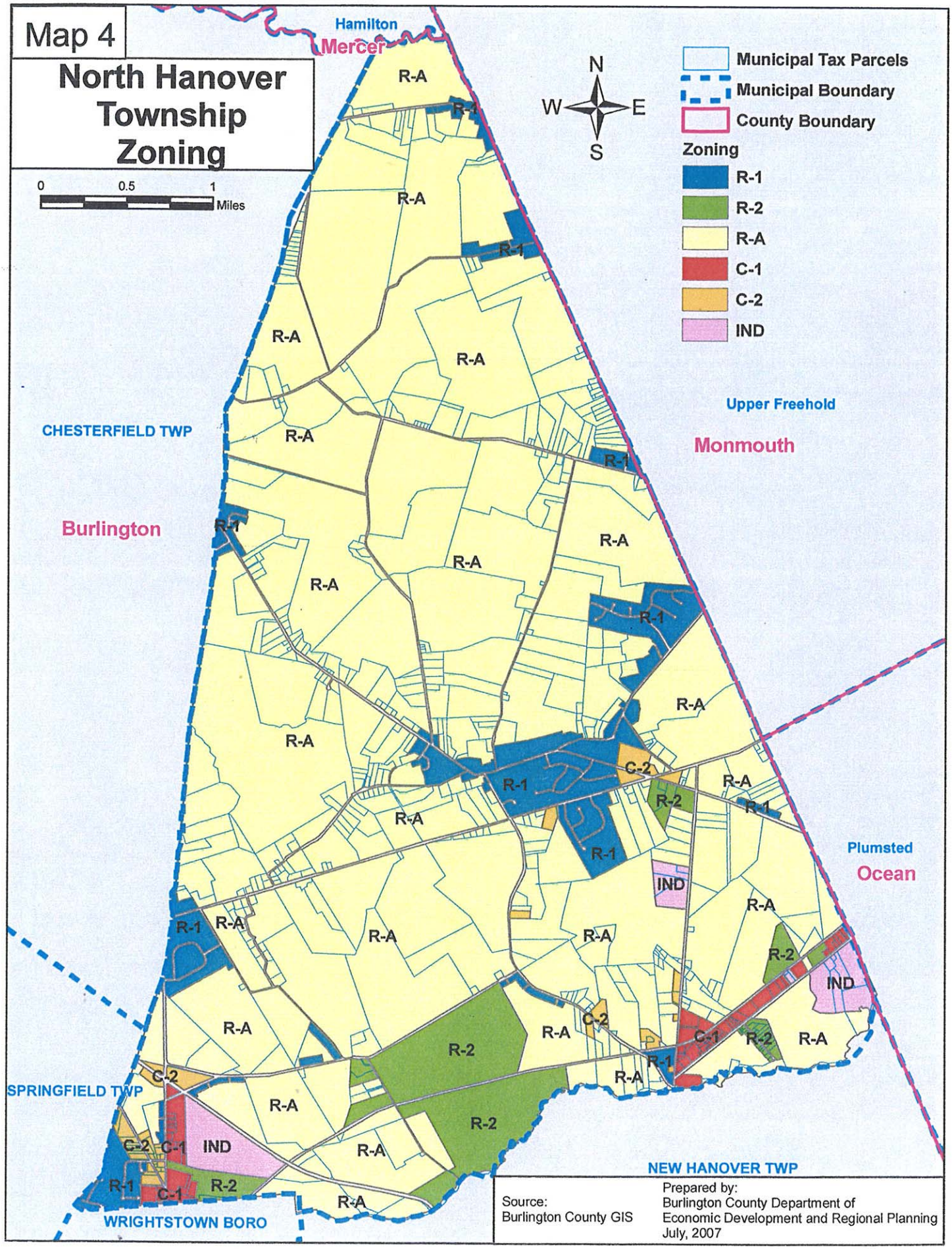
Poor Soil, no Dwelling, Developable Area ≥ 20 Acres

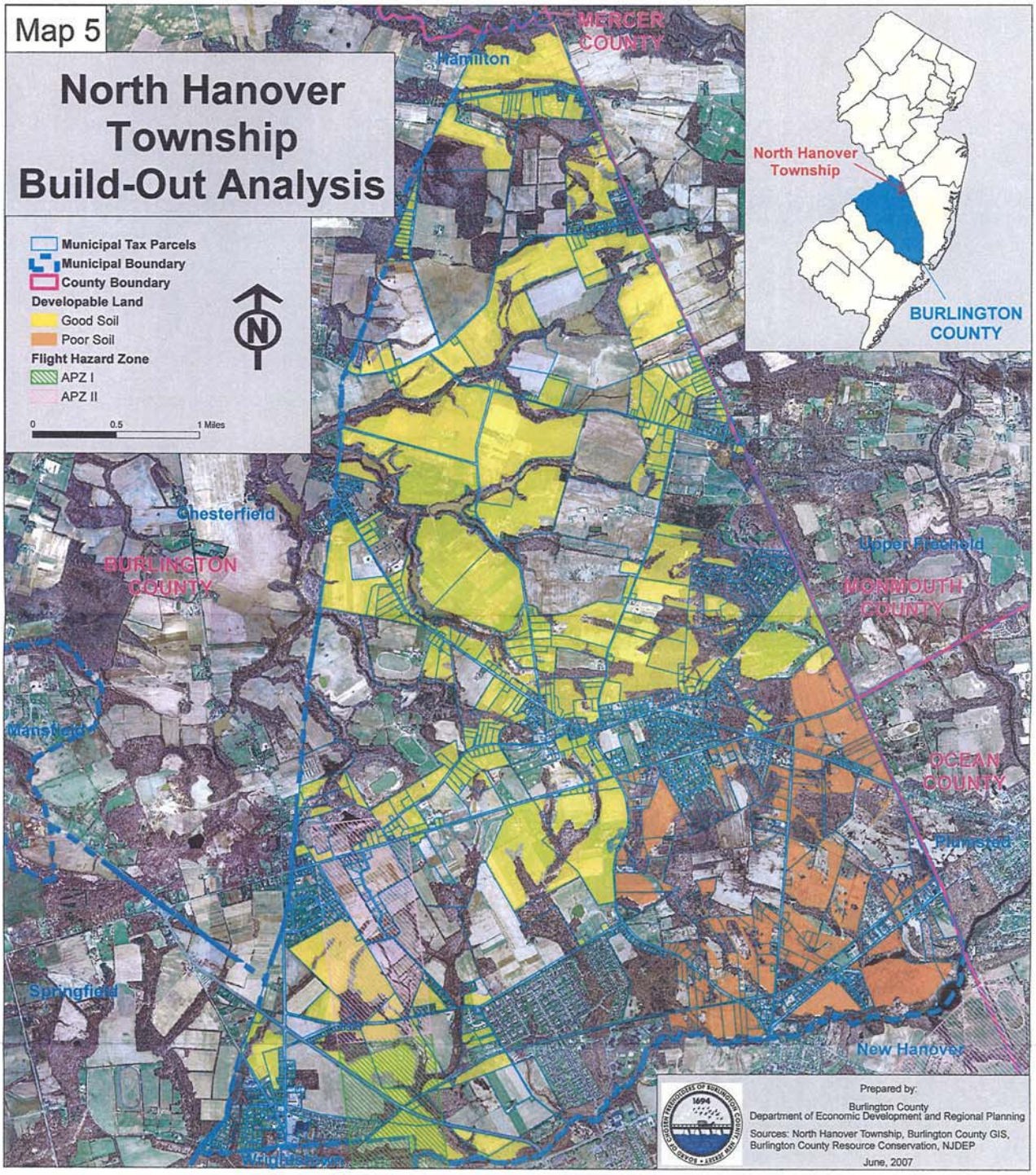
NEWGISID	BLOCK	LOT	Parcel Area	Env. Constraint Area	Net Dev. Area	Density	Lot	Coefficient	Dev. Lot
26403-7	403	7	103.78	40.27	54.07	0.2	11	0.8	9
26800-50	800	50	42.41	10.23	32.17	0.2	6	0.8	5
26904-6	904	6	110.65	33.71	76.94	0.2	15	0.8	12
26905-29	905	29	39.35	10.62	28.73	0.2	6	0.8	5
Total			**296.18**	**94.83**	**191.91**		**38**		**31**


Map 1
N
W
E
S
MERCER COUNTY
MONMOUTH COUNTY
Chesterfield
North Hanover Township
Springfield
Wrightstown
New Hanover
OCEAN COUNTY
BURLINGTON COUNTY
North Hanover Township
BURLINGTON COUNTY
0
2.5
5
10
Miles
Source:
Burlington County GIS
Prepared by:
Burlington County Department of Economic Development and Regional Planning, June 2007


Map 2
North Hanover Township Land Use, 2000
0
0.5
1
Miles
N
W
E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Land Use
Residential:Single-Family Detached
Residential:Multi-Family
Residential:Mobile Home
Manufacturing:Light Industrial
Transportation
Utility
Commercial
Community Services
Recreation
Agriculture
Wooded
Vacant
Water
Hamilton
Mercer
CHESTERFIELD TWP
Burlington
Monmouth
Upper Freehold
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Sources:
DVRPC 2000 Land Use
Burlington County GIS
Prepared by:
Burlington County Department of Economic Development and Regional Planning
July, 2007

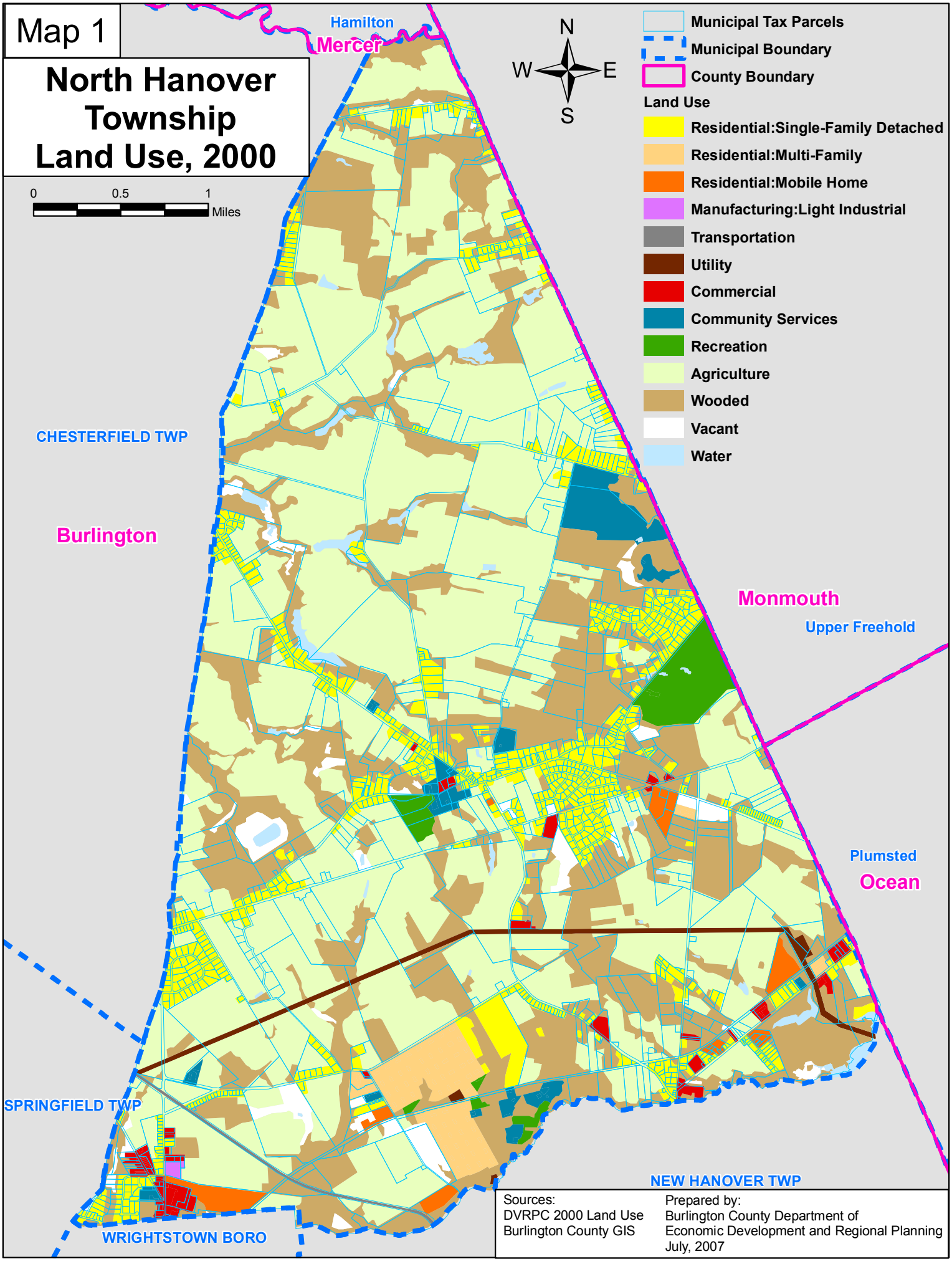

Map 3
North Hanover Township Preserved Land
0
0.5
1
Miles
N
W
E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Preserved Farmland
Preserved Open Space
Hamilton
Mercer
Upper Freehold
Monmouth
CHESTERFIELD TWP
Burlington
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Sources:
Burlington County GIS
Burlington County
Resource Conservation
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
July, 2007

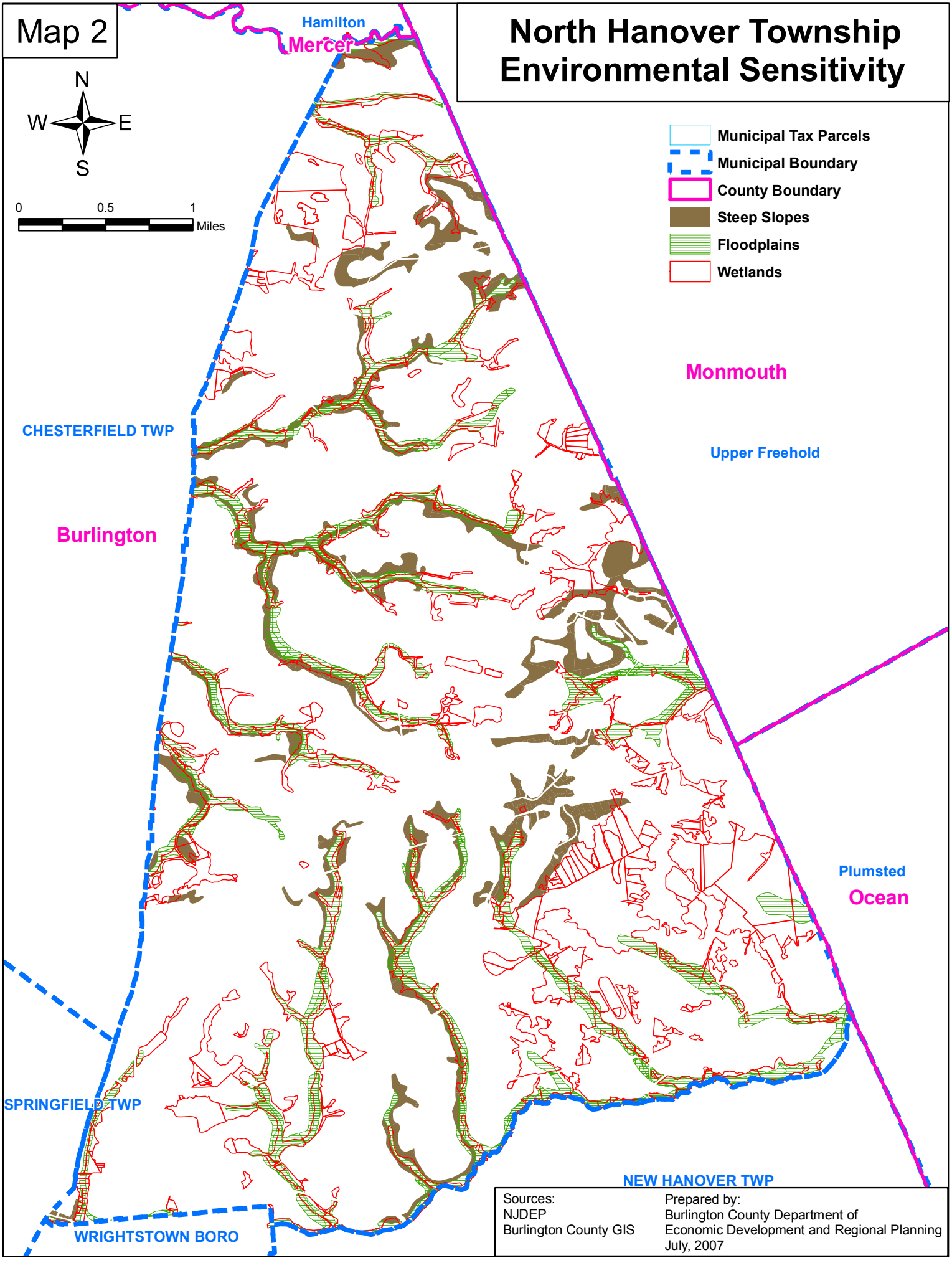

Map 4
North Hanover Township Zoning
0 0.5 1 Miles
N
W E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Zoning
R-1
R-2
R-A
C-1
C-2
IND
Hamilton
Mercer
Upper Freehold
Monmouth
CHESTERFIELD TWP
Burlington
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Source:
Burlington County GIS
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
July, 2007

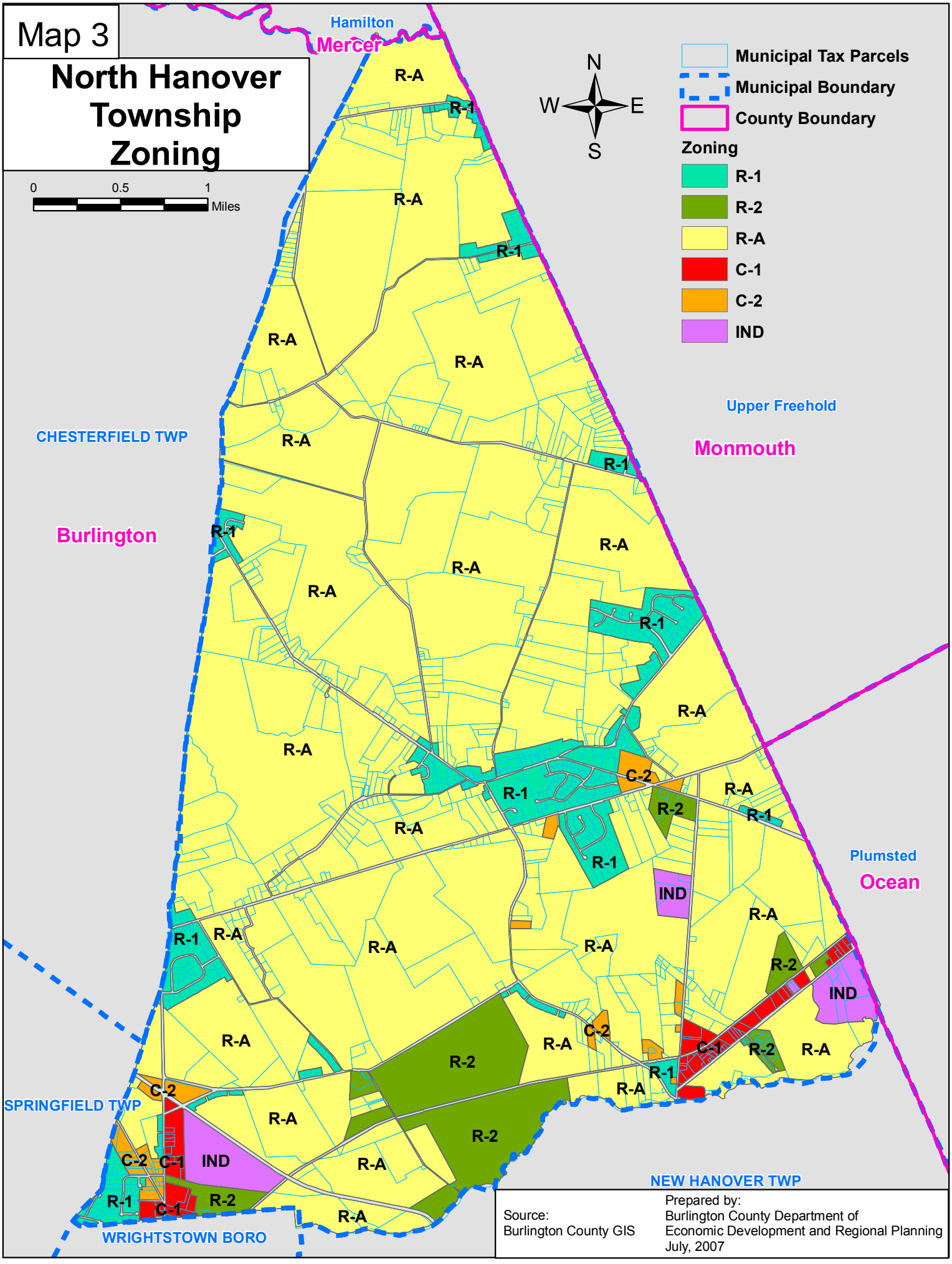

Map 5
North Hanover Township Build-Out Analysis
Municipal Tax Parcels
Municipal Boundary
County Boundary
Developable Land
Good Soil
Poor Soil
Flight Hazard Zone
APZ I
APZ II
0
0.5
1 Miles
N
MERCER COUNTY
Hamilton
North Hanover Township
BURLINGTON COUNTY
Chesterfield
BURLINGTON COUNTY
Upper Freehold
MONMOUTH COUNTY
Mansfield
OCEAN COUNTY
Plumsted
Springfield
New Hanover
Prepared by:
Burlington County
Department of Economic Development and Regional Planning
Sources: North Hanover Township, Burlington County GIS, Burlington County Resource Conservation, NJDEP
June, 2007

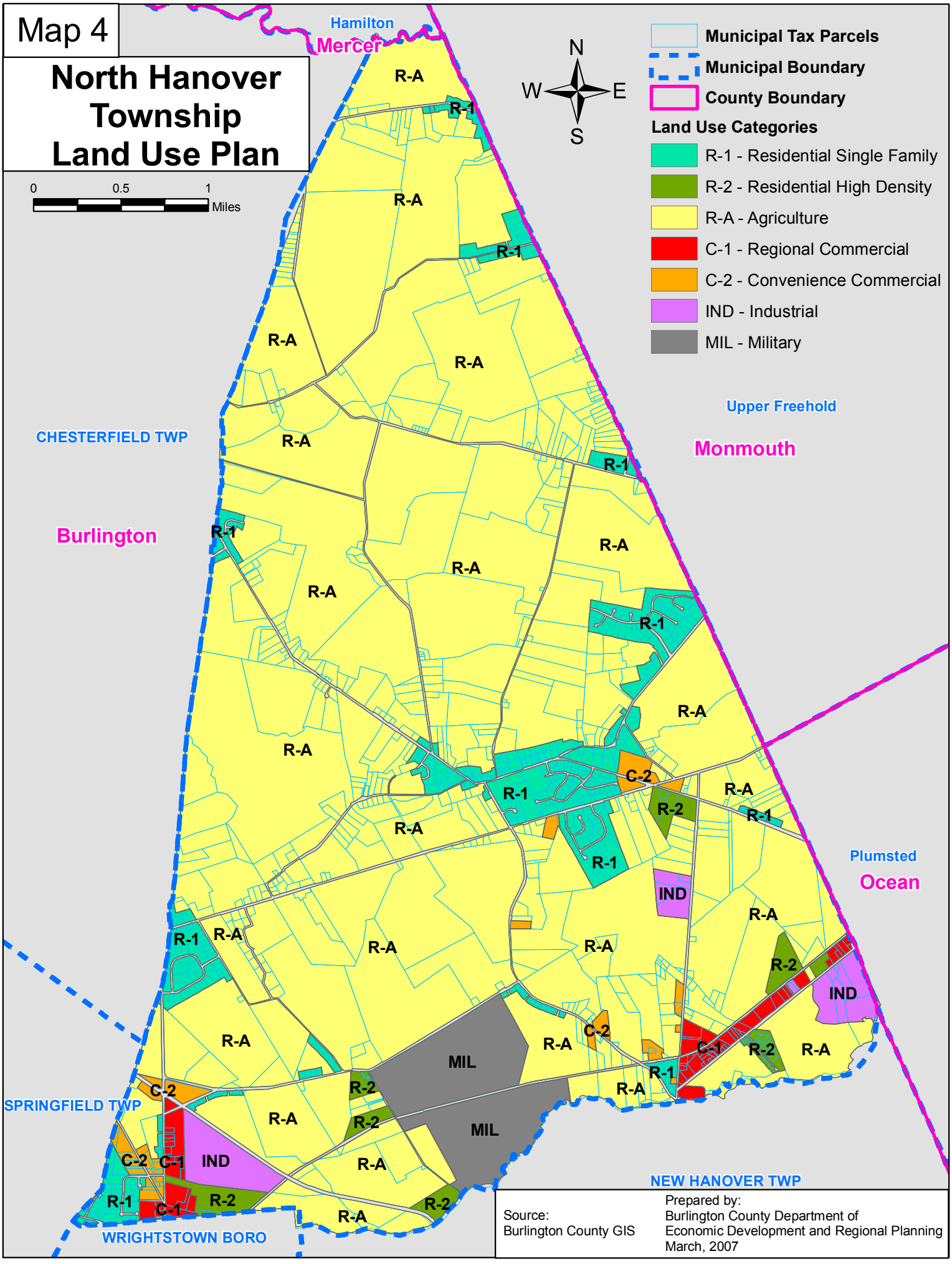
Appendix B:

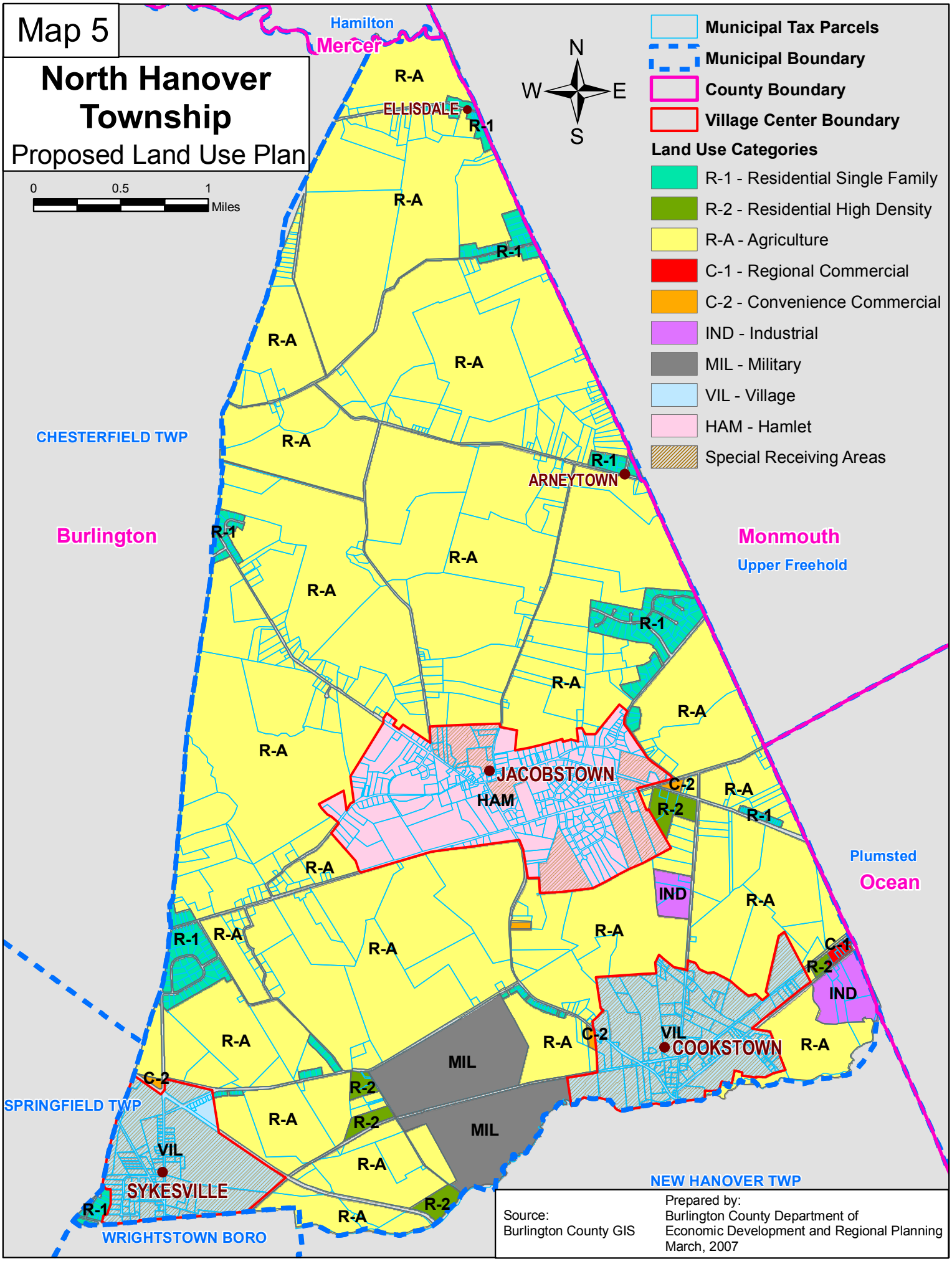
Figures


Map 1
North Hanover Township Land Use, 2000
0
0.5
1
Miles
N
W
E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Land Use
Residential:Single-Family Detached
Residential:Multi-Family
Residential:Mobile Home
Manufacturing:Light Industrial
Transportation
Utility
Commercial
Community Services
Recreation
Agriculture
Wooded
Vacant
Water
Hamilton
Mercer
CHESTERFIELD TWP
Burlington
Monmouth
Upper Freehold
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Sources:
DVRPC 2000 Land Use
Burlington County GIS
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
July, 2007


Map 2
North Hanover Township
Environmental Sensitivity
N
W
E
S
0
0.5
1
Miles
Municipal Tax Parcels
Municipal Boundary
County Boundary
Steep Slopes
Floodplains
Wetlands
Hamilton
Mercer
Monmouth
CHESTERFIELD TWP
Upper Freehold
Burlington
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Sources:
NJDEP
Burlington County GIS
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
July, 2007


Map 3
North Hanover Township Zoning
0
0.5
1
Miles
N
W
E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Zoning
R-1
R-2
R-A
C-1
C-2
IND
Hamilton
Mercer
Upper Freehold
Monmouth
CHESTERFIELD TWP
Burlington
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Source:
Burlington County GIS
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
July, 2007


Map 4
North Hanover Township Land Use Plan
0
0.5
1
Miles
N
W
E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Land Use Categories
R-1 - Residential Single Family
R-2 - Residential High Density
R-A - Agriculture
C-1 - Regional Commercial
C-2 - Convenience Commercial
IND - Industrial
MIL - Military
Hamilton
Mercer
Upper Freehold
Monmouth
CHESTERFIELD TWP
Burlington
Plumsted
Ocean
SPRINGFIELD TWP
NEW HANOVER TWP
WRIGHTSTOWN BORO
Source:
Burlington County GIS
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
March, 2007


Map 5
North Hanover Township
Proposed Land Use Plan
0
0.5
1
Miles
N
W
E
S
Municipal Tax Parcels
Municipal Boundary
County Boundary
Village Center Boundary
Land Use Categories
R-1 - Residential Single Family
R-2 - Residential High Density
R-A - Agriculture
C-1 - Regional Commercial
C-2 - Convenience Commercial
IND - Industrial
MIL - Military
VIL - Village
HAM - Hamlet
Special Receiving Areas
Hamilton
Mercer
CHESTERFIELD TWP
Burlington
Monmouth
Upper Freehold
Plumsted
Ocean
SPRINGFIELD TWP
WRIGHTSTOWN BORO
NEW HANOVER TWP
ELLISDALE
ARNEYTOWN
JACOBSTOWN
HAM
COOKSTOWN
VIL
SYKESVILLE
VIL
MIL
MIL
IND
IND
R-A
R-1
R-2
C-1
C-2
Source:
Burlington County GIS
Prepared by:
Burlington County Department of
Economic Development and Regional Planning
March, 2007