

**Preliminary Land Use Service (PLUS)
Comprehensive Plan Amendments and Municipal Ordinances**

Delaware State Planning Coordination
122 William Penn Street • Dover, DE 19901 • Phone: 302-739-3090 • Fax: 302-739-6958

Name of Municipality: Town of Frederica		PLUS 2006-12-04
Address: 14 E David Street P.O. Box 294 Frederica, DE 19946	Contact Person: Fay Glanden	
	Phone Number: 302.335.5417	
	Fax Number: N/A	
	E-mail Address: N/A	

Date of Most Recently Certified Comprehensive Plan: Adopted and certified March 2004. Amended March 2005.

Application Type:

Comprehensive Plan Amendment: YES

Ordinance: _____

Other: _____

Comprehensive Plan Amendment or Municipal Ordinance prepared by: URS Corporation	
Address: URS Corporation DuPont Office Suites, Suite C 201 West DuPont Highway Millsboro, DE 19966	Contact Person: Ryan Mawhinney
	Phone Number: 302-933-0200
	Fax Number: 302-933-0320
	E-mail Address: ryan_mawhinney@urscorp.com

Maps Prepared by: URS Corporation	
Address: (same as above)	Contact Person:
	Phone Number:
	Fax Number:
	E-mail Address:

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Please describe the submission:

The Town of Frederica is proposing to amend its 2004 Comprehensive Plan with focus on future land use and annexations. The purpose of this amendment is to expand the annexation boundary to include the balance of a 340-acre annexation proposal, herein known as the Northwest Annexation Area. The following parcels are included as part of this annexation area:

Property Reference	Tax Parcel ID
Vineyard Property	SM-08-00-131.00-01-17.00
McCloskey Property	SM-08-00-131.00-01-16.00
Wooten Property	SM-08-00-131.00-01-15.00

The annexation area is adjacent to Town limits located north of State Route 12 (Johnny Cake Landing Road), and southwest of Spring Creek. A subdivision of the parcels designed for a mixed-use development, consisting of residential, institutional and commercial uses, has been introduced to the Town.

As shown on the Proposed Land Use and Annexations map in the 2004 Comprehensive Plan, the Vineyard parcel is located within the potential annexation boundary and is targeted for short-term growth. The McCloskey parcel is located in the Area of Concern and acknowledged as a potential candidate for future annexation. The Wooten parcel borders the McCloskey parcel.

The Comprehensive Plan Amendment text and maps are attached.

Town of
Frederica
Comprehensive Plan
Amendment

December 2006

DRAFT



Prepared by:
URS
Millsboro, Delaware

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TOWN OF FREDERICA
COMPREHENSIVE PLAN AMENDMENT 2007

DRAFT December 2006

SECTION 1 - INTRODUCTION

1-1. Purpose. The purpose of this amendment to the Comprehensive Plan is to expand the annexation boundary to include the balance of a 340-acre annexation proposal, hereafter known as the Northwest Annexation Area (NWAA). The following parcels are included in part of this annexation area:

Property Reference	Tax Parcel ID	Acres	2005 Comprehensive Plan Growth Designation
Vineyard Property	SM-08-00-131.00-01-17.00	84.76 ^{+/-}	Potential Annexation Boundary
McCloskey Property	SM-08-00-131.00-01-16.00	238.00 ^{+/-}	Area of Concern
Wooten Property	SM-08-00-131.00-01-15.00	17.70 ^{+/-}	Not categorized

The Amendment provides an analysis of the benefits and impacts associated with the expansion and will further provide a framework with recommendations to accommodate the growth. In order to optimize the opportunities and benefits, mitigate the adverse impacts and integrate the new development into the character of the Town, this Amendment provides an evaluation of the viable alternatives and recommends specific implementation strategies that aim to achieve Livable Delaware initiatives. It serves to encourage a well-planned mixed-use design, provide a plan of services for adequate utilities and services, preserve and enhance environmental assets, and promote a desirable Town character.

1-2. Northwest Expansion. The Northwest Annexation Area is adjacent to Town limits located north of State Route 12 (Johnny Cake Landing Road), and west of Spring Creek, a tributary of the Murderkill River. A subdivision of the parcels designed for a mixed-use development, consisting of residential, institutional and commercial uses, has been introduced to the Town. The properties offer a logical extension of Town, if planned adequately.

1-3. Background. The Town of Frederica is a rapidly growing area that contains many historical and natural resources, which provide many benefits on a localized and a regional basis. Therefore, the rapid influx of housing and population must be guided to minimize impacts to the Town's streets, infrastructure and natural environment. To this end, Frederica is actively involved in implementing the recommendations of the Comprehensive Plan adopted and certified March 2004, amended March 2005, and has since made significant progress to address the critical issues identified in the Plan. The document sets forth a plan for a ten year period and is required by State law to be updated every 5 years. The first Plan update will be March 2009.

The 2004 Plan establishes a municipal development strategy that analyzed the Town's present conditions and identifies goals and policies, critical issues, and recommendations to meet future needs. This Amendment shall serve as a legal document to supplement the current Plan as a foundation for Frederica's land use decisions and the annexations of the northwest parcels. The amendments reflected in this document supersede the relevant recommendations described in the March 2004 pertaining to this site and general build-out strategies influenced by the annexation of this site.

1-4. Scope. The planning process for the 2007 Amendment revealed that the Town is still generally aligned with the visions and goals provided in the 2004 Plan. Therefore, this

Amendment develops upon the existing plan and provides more detail to the critical issues associated with the Northwest annexation, and further focuses on implementing a framework for the master planning of the Town extension. The comprehensive plan amendment mostly affects two sections of the 2004 Comprehensive Plan: 1) Future Land Use and Annexations and 2) Provision of Utilities, Community Facilities and Services, and Transportation. The Amendment will generally follow the format of the existing Plan and expand on each section as it relates to the proposed annexation.

This Amendment will first assess the potential build-out of the northwest area, which will provide the basis for a plan of services framework. This Amendment will then provide recommendations to address critical community development and infrastructure issues, and further aim to optimize the benefits and mitigate the costs associated with the annexation. The annexation and development review processes will focus on design and servicing the new development with upgrades and improvements in detail. To this end, the Town shall administer the Annexation process per the Town Charter provisions and will submit the Municipal Plan of Services pursuant to the to Title 22, Delaware Code, Section 101 to the Office of State Planning and Coordination.

The Land Development Ordinance (LDO) and Zoning Map will also need to be revised. The LDO amendment will provide for a new mixed-use zoning district in keeping with neo-traditional principles. The parcels will be rezoned at the time of annexations.

1-5. Public Participation/ Inter-jurisdictional Coordination. In order to note the major concerns to consider, make recommendations for annexing the property, and provide a framework for plan of services, a multi-jurisdictional planning process was employed. Public input and governing agency programs were weighed when considering growth and development in these areas.

The drafting of the 2004 Comprehensive Plan utilized a public opinion questionnaire and work sessions to integrate public envisioning into the planning process and to identify overall community vision and goals. The key findings are provided in the 2004 Comprehensive Plan. The 2007 collaborative planning process first sought to substantiate the validity of these findings as they pertain to current overall growth issues with focus towards the Northwest Annexation Area. The planning process included coordinating actions with other jurisdictions and agencies at all levels of government and public involvement.

Two (2) Town work sessions were held to build a collaborative process between the Town, citizens, potential developers and applicable governing agencies. The work sessions provided an opportunity for participants to present their issues and concerns, and then help formulate ideas and concepts into potential implementation recommendations. The first work session was held on October 2, 2006 and focused on density, land use and design issues with focus on the feasibility and advantages of utilizing Transfer Development Rights (TDR). The second work session was held on October 16, 2006 and focused on critical transportation issues. Representatives from the following agencies attended: Kent County Department of Planning, Office of State Planning and Coordination (OSPC), Department of Transportation (DelDOT), and Morris & Ritchie Associates, Inc. on behalf of the Applicant.

In addition to the work sessions, URS, on behalf of the Town, met separately with OSPC on August 3, 2006 and with Kent County Department of Planning Services on August 23, 2006 to discuss the County TDR program and other foreseen issues regarding the annexation and development of the NWAA.

These Town work sessions and overall planning process support the key findings and advances the strategies, goals, visions and principles provided in the 2004 Plan. It further revealed that in order to justify and assure the equitable use of moderate to high densities, the northwest parcels should be designed applying growth management techniques, such as neo-traditional design.

Summaries of the cooperative efforts are provided as Appendix item A. In addition, the results are integrated into this Comprehensive Plan and the Land Development Ordinance (LDO) amendments.

SECTION 2 - NORTHWEST ANNEXATION AREA

2-1. Existing Conditions

a. Site Data. The NWAA, totaling 340.2 acres, is currently used for agricultural purposes and is located along the northwest boundary of the Town due north of Johnnycake Landing Road (State Route 12) and west of Spring Creek.

b. 2004 Comprehensive Plan - Future Land Use and Annexations. As shown on the Proposed Land Use and Annexations map in the 2004 Comprehensive Plan, the Vineyard parcel is located within the potential annexation boundary and is targeted for short-term growth. The McCloskey parcel is located in the Area of Concern. A parcel in the Area of Concern is typically acknowledged as a potential candidate for future annexation. The Wooten parcel borders the McCloskey parcel.

The Town’s 2004 Comprehensive Plan recommended that the parcels identified in the future annexation boundary west of Town be zoned for cluster development. Allowing flexibility in order to preserve open space, such as smaller lots, narrower streets, and public open space are some characteristics of a cluster development.

c. State Strategies State Policies and Spending. Pursuant to Titles 9 and 22 of the Delaware Code, the State “Strategies for Policies and Spending” generally prioritizes the most intense State investments (level 1 and 2 investments) within areas included in Kent County’s Growth Zone and in and around municipalities, such as Frederica.

The NWAA lies within the State’s Level 2 and 3, which generally identifies areas most prepared for growth and where the State can make the most cost-effective infrastructure improvements, including schools, roads and public safety.

Table 1 – State Investment Level Strategies

Property Reference	Acres	Predominant State Investment Level
Vineyard	84.46	Level 2
McCloskey	238	Level 3
Wooten	17.7	Level 2 & 3
Total	340.2	



The following is a general description for Level 2 and 3 classifications as it applies to the Northwest Annexation Area.

Level 2. The Vineyard and Wooten portions of NWAA were classified as a Level 2 investment area due to three general characteristics:

- 1) Growing area that has (or will have) public water and wastewater services and utilities.
- 2) Provides a plausible opportunity for Transfer of Development Rights (TDR) receiving area.

- 3) Adjacent to Town borders providing an opportunity for contiguous development, which should grow consistently with historic character.

Level 3. The Level 3 investment area classification for the NWAA is due to these general characteristics:

- 1) High priority agricultural lands directly adjacent to natural areas.
- 2) Environmentally sensitive areas adjacent to areas that have some pro-development qualities.
- 3) Areas that are experiencing some development pressure.
- 4) The area is planned for long-term growth. Development of these areas within the next five years may not represent proper and efficient phasing of development.
- 5) May be considered as Transfer of Development Rights (TDR) sending or receiving areas, depending on local conditions and locally developed TDR programs or ordinances.

Level 3 lands are most often impacted by environmentally sensitive features, agricultural preservation issues, or other infrastructure issues. Level 3 areas are categorized as growth oriented, but may be less appropriate than Level 1 and 2 in the near future relevant to proper and efficient phasing of development. This is intended to adequately and appropriately guide the timing, character, and pattern of growth by preventing spot development that is not contiguous with existing density and infrastructure. Since the NWAA will provide for contiguous growth and has a number of development qualities, development may be appropriate in the near term future. The McCloskey and the Wooten Properties are not directly adjacent to Town, but the development of the Vineyard/ Level 2 area will allow for contiguous development, extension of infrastructure and proper phasing.

Level 2 and 3 investment strategies relevant to the NWAA are integrated within each corresponding section.

d. Existing Land Use. The current land use of NWAA parcels and the majority of bordering properties are agricultural. The lands that are situated between the Northwest Annexation Area and the built Town and are predominantly forested, as shown on Map 1 - Aerial View of the existing plan. These forested lands provide the largest tree stand in Town and may provide important benefits to water quality and wildlife habitat on a regional basis. Single-Family Residential homes exist to the south along Johnnycake Landing Road.



Vineyard Property
from Spring Creek.



McCloskey Property from
Johnnycake Landing Road.

e. Kent County Comprehensive Plan and Zoning.

Growth Overlay Zone. The NWAA lies within Kent County’s growth overlay zone, as defined by Kent County’s Comprehensive Plan, adopted in March of 2002.

The growth zone is generally bounded on the east by State Route 1, running north to south from Smyrna to Milford, and extending east to west from Felton to Frederica. This zone includes most of the municipalities in Kent County. Kent County would like to see growth focused in this area, since infrastructure to support growth is either already in place or can be relatively easily provided for.

County Zoning and Designated Land Use. The County zoning of the Vineyard and Wooten parcels are AC – Agricultural Conservation. The McCloskey parcel is split zoned consisting of RS1 – Single Family Residential, RM Multifamily Residential and BN – Neighborhood Business. The designated land use is low density for Vineyard and Wooten, and medium to high density and commercial for the McCloskey parcel. The breakdown of current use, County zoning, designated land use and acreage for parcels located in the NWAA is provided on Table 2.

Table 2 – Parcel Data

Property Reference	Tax Parcel ID	Current Zoning	Acres	Designated Land Use
Vineyard	8-00-131.00-01-17.00-00	AC	84.46	Low Density
McCloskey	8-00-131.00-01-16.00-00	MULTI	238	MULTI
		RS-1	193.36	Medium Density
		RM	27.85	High Density
		BN	16.79	Commercial
Wooten	8-00-131.00-01-15.00-00	AC	17.7	Low Density
		Total	340.2	

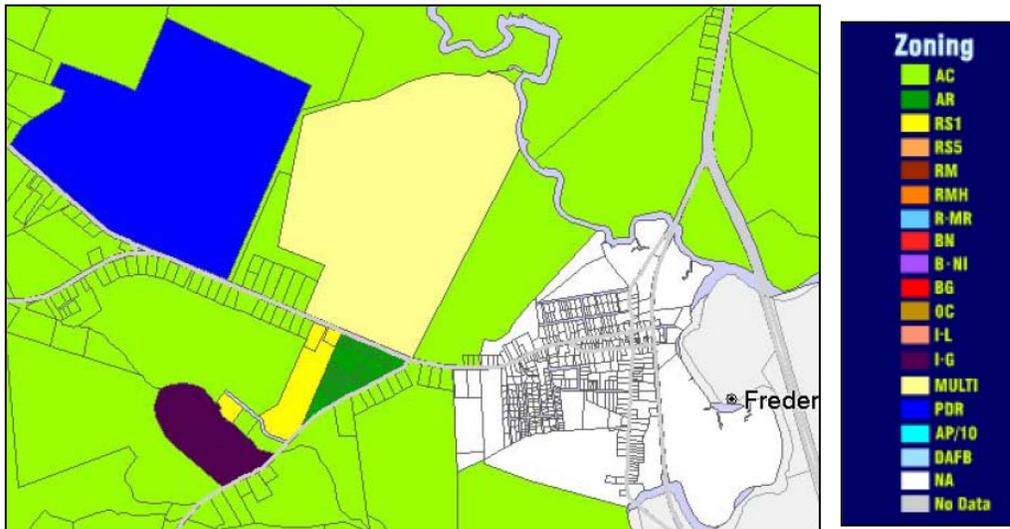
The majority of the area surrounding the NWAA and the Town of Frederica is zoned for low-density development in the form of Agricultural Conservation, under County jurisdiction. In addition, a 253-acre parcel to the west is maintained as agricultural use through the Delaware Purchase of Development Right (PDR) program. To the south of Johnnycake Landing Road lies a collection of parcels zoned for Single-Family Residential and Agricultural Residential uses. The breakdown of County zoning, designated land use and acreage for parcels surrounding the NWAA is provided on Table 3 – Surrounding Parcel Data. Maps showing the designated land use and zoning under County jurisdiction is provided below.

Table 3 – Surrounding Parcel Data

Bearings	Tax Parcel ID	Zoning	Acres	Designated Land use
W	8-00-130.00-02-20.00-00	PDR	233.53	Open Space
W-NW	8-00-131.00-01-13.00-00	AC	164.4	Low Density
N-NE	8-00-131.00-01-12.00-00	AC	229	Low Density
NE	8-00-131.00-01-18.00-00	AC	80.9	Low Density
E	8-08-131.00-18-01-01.01	R-2 (Town)	6.2	Residential
SE	8-08-141.06-01-09.00-00*	R-2 (Town)	9.00	Residential
S	8-00-141.00-01-06.00-00	AC	74.7	Low Density
SW	8-00-140.00-01-24.00-00	AC	95.1	Low Density
Total			892.83	

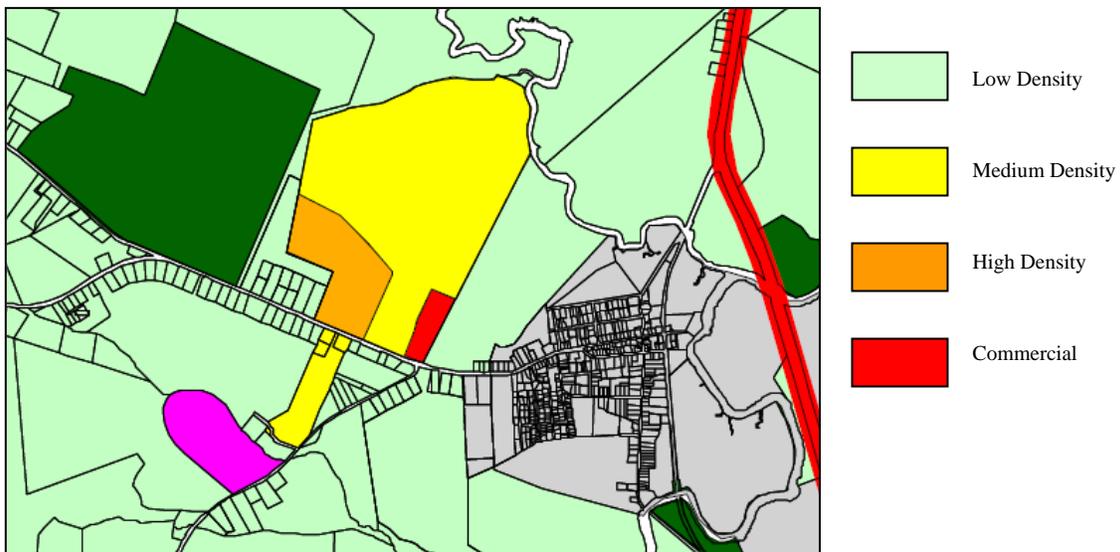
*Included as part of the NWAA development proposal.

County Zoning Districts



Source: Kent County Mapping, October 23, 2006

County Designated Land Use



Source: Kent County Comprehensive Plan, Adopted March 23, 2002

The County AC – Agricultural Conservation and the AR – Agricultural Residential zoning classifications for areas within the two-mile radius overall zone with central and water allow for development in the form of 3.0 dwelling units per acre. The RS-1 – Single-Family Residential classification allows for 3.5 dwelling units per acre. The RM – Multifamily Residential allows for 10 dwelling units per acre.

Under the current zoning density requirements, it is estimated that the NWWA could be developed at an overall maximum density of 3.68 dwelling units per acre. Table 4 provides a breakdown of current gross by-right density and number of dwellings units.

Table 4 – Current Zoning Density Requirements

Property Reference	Current Zoning	Acres	Permitted Dwelling Units per Acre (du/ac)	Number of Dwelling Units (du)
<i>County Jurisdiction</i>				
Vineyard	AC	84.46	3.0*	253
McCloskey	Multi			
	RSI	193.36	3.5	676
	RM	27.85	10.0	278
	BN	16.79	-	-
Wooten	AC	17.70	3.0*	53
<i>Town Jurisdiction</i>				
Schiff	R-2	9.00	3.0	27
	Total	349.16		1,287
Overall gross density: 1,287 du / 349.16 ac = 3.68 du/ac				

*On central sewer and water.

Note: Calculations are based on gross acreage including wetlands, FEMA delineated floodplains, and area that will be dedicated to roadways, among others. The actual net developable acreage and density may vary.

A density of 4.0 dwellings units per acre will be utilized as a base planning number to estimate build-out of the NWAA, to evaluate the capacity of infrastructure and facilities, and to provide a framework for a plan of services.

2-2. Annexation.

a. Short-term Growth Areas. Map 1 – Proposed Land Use Annexations (Amended) displays lands within Frederica’s short-term and long-term growth boundaries. Frederica’s amended proposed annexation area includes plans to annex one parcel for open space use, twenty-seven (27) parcels for residential use, five (5) parcels for commercial use and three (3) parcels for mixed-use. The thirty-six (36) total parcels makes up approximately 513.4 acres. The Town currently consists of about 451 acres and would grow to approximately 964.4 acres should the Town annex all the parcels.

b. Current Development Activities. At the time of this amendment, five parcels, totaling approximately 459 acres, are proposed for annexation, which are at various phases of the annexation and planning process.

The new development known as Waters Edge, a Planned Unit Development (PUD) of 143 units, is expected to begin during this year contingent on governing agency approvals. Build out is expected to take up to five years. An annexation application has been submitted for the Erb/Sloan Property (also known as Harbourtowne development). This PUD is proposed at 335 homes on 146.05 acres. A second annexation application has been submitted for the 8.59 commercial zoned Dunn Property. Both proposals have recently been submitted for State Plan of Services review, and are within the Town’s established annexation area.

The NWAA consists of three parcels totaling 340.16 acres. This annexation is in response to a request from the equitable owners of the properties. The proposed use for these parcels is mixed use of residential, commercial, institutional and open space. Table 5 below and the attached Map 2 – Current Development Activity show the major proposed residential and commercial developments. Map 2 further displays projects in the Frederica region that have recently received PLUS review and comments.

Table 5 – Current Development Activity

Property Reference	Tax Parcel ID	Acres	Proposed Use	Dwelling Units
Northwest Annexation Area	SM-08-00-131.00-01-17.00	349.16	Mixed Use	1,396*
	SM-08-00-131.00-01-16.00			
	SM-08-00-131.00-01-15.00			
Erb/ Sloan Property (Harbourtowne)	SM-08-00-141.10-01-01.00	146.05	PUD	335
	SM-08-00-141.00-01-21.00			
Waters Edge	SM-08-00-141.00-01-01.00	45.42	PUD	143
Dunn Property	SM-08-00-141.00-01-35.00	8.59	Commercial	-
Total		540.22	Total	1,874 du

* Estimated based on a gross density of 4.0 du/ac for planning purposes.

c. Population and Build-Out Projection. Between 2000 and 2005, it is estimated that the Town grew from 648 persons to 697 persons, which is an approximate 7.5 percent increase. This is the first population increase in a 5-year period calculated since 1955-1960. The County grew an estimated 16,866 persons during the same period or about a 13.2 percent increase. These figures are based on Delaware Population Consortium, Population Projection Series, October 26, 2006 and the U.S. Census Bureau Population Division, June 21, 2006.

All residential projects, excluding the development of the NWAA, are expected to contribute an additional 478 dwelling units, and an estimated 1,257 persons.

It is estimated that the development of the NWAA at a density of 4.0 dwelling units per acre would result in 1,396 additional housing units in Town. Using a household size of 2.63 persons, it can be projected that, at full build-out, the NWAA development would result in a population increase of 3,671 persons.

The three developments, as proposed and at full build-out, would add 1,874 dwellings units and would result in a population increase from 697 persons to 5,625 persons. For planning purposes herein, we project 1,900 additional dwelling units.

It is evident that the estimated increase to 5,625 persons significantly alters the projections provided in the 2004 Comprehensive Plan, which forecasted a population increase ranging from 668 to 710 persons by the year 2010.

2-3. Land Use Change. At the time of this Amendment, conceptual plans for the NWAA proposed a mixed-use development consisting of residential, institutional and commercial uses. The breakdown of acreage for each proposed use shown in Table 6 was provided by Morris & Ritchie Associates, Inc. on behalf of the Applicant(s), Schiff Farms, Inc. and East Coast Ag. Holdings, on July 5, 2006.

Table 6 – NWAA Estimated Acreage per Use

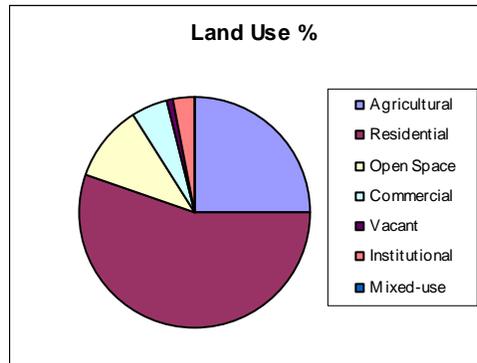
Use	Estimated Acreage
Commercial	20
School/ Institutional	20
Single-Family	200
Multi-Family	80
Open Space	27
Total:	347 acres

At full build-out, the agricultural land use percentage of Town will decrease from 63% to 25% and will no longer be the predominant land use in Town boundaries. The predominant land use will be residential, which will increase from 19% to 56%. The acreage, percentage of Town and the change in percentage due to all known foreseeable developments are provided in Table 7 and Chart 1 – Estimated Land Use. The information below develops on the existing land use data collected from on-site survey conducted by the University of Delaware Institute for Public Administration in 2002, which is provided in Section 1-3 of the Comprehensive Plan.

Table 7 – Estimated Land Use

Land Use	Acres	Land Use %	Change %
Agricultural	201.98	25%	-29%
Residential	445.02	55%	430%
Open Space	87	11%	45%
Commercial	40.59	5%	238%
Vacant	6	1%	0%
Institutional	24	3%	500%
Mixed-use	1	0%	0%
Total	805.59	100%	

Chart 1 – Estimated Land Use



*Following developments of Waters Edge, Erb/ Sloan Property and Dunn Property.

*Estimate includes the NWAA conceptual breakdown of acreage for each proposed use, as provided by MRA, Inc. on behalf of the Applicant(s), Schiff Farms, Inc. and East Coast Ag. Holdings, on July 5, 2006.

2-4. Costs and Benefits. The following lists the potential benefits and opportunities associated with the NWAA development that shall be optimized, as well as the potential cost and impacts that need to be mitigated.

a. Potential Benefits.

- Increase tax base and revenue for public services.
- Assist to meet commercial needs.
- School designed into development and Town will improve walkability and will provide public facilities, such as open space and recreational facilities.
- Mixed housing will increase housing options for diverse economic levels.
- Transportation alternatives and opportunities.
- May provide for road and sidewalk improvements in area.
- May stimulate economic development in Town center.
- May increase the demand and likelihood of getting enhanced public transit service.

b. Potential Costs/ Impacts.

- Traffic through Town to and from Route 1 via David and Front Streets.
- Increased traffic in the Town may increase the need for street maintenance and result in a dangerous situation, as large trucks travel down narrow streets.
- May strain existing infrastructure.
- Needed improvements may burden the Town’s administrative and financial resources.
- Agricultural land use will diminish.
- Groundwater recharge area will diminish.
- Increased need for public services such as police and fire protection.

2-5. Density and Design.

a. State Strategies relevant to density and design. Some Level 2 investment strategies relevant to the density and design of the NWAA are generalized and summarized as follows:

Density & Design

- 1) Encourage mix housing type and commercial uses.
- 2) Encourage development that is consistent with the character of the Town, higher densities and the use of existing streets and utilities.
- 3) Support compact, mixed-use development.
- 4) Designate the area as a receiving zone through a TDR program that defines parameters and regulations that best meets the Town conditions.

Housing and Community Facilities

- 1) Provide residential developments with neighborhood services such as a church, convenient stores, day care center, branch library, health clinics, among others.
- 2) Include a mixture of uses, housing types, and higher densities inspired from and integrated into the existing Town character and densities, as well as other neo-traditional design principles.

Economic Development

- 1) Seek opportunities for small to medium sized businesses in mixed-use, compact developments.
- 2) Minimize adverse impacts on transportation facilities and air quality by locating employers in the Level 2 area. (*within 1/2 mile of exiting Town*)

Some Level 3 investment strategies relevant to the density and design of the NWAA are generalized and summarized as follows:

General

- 1) Adequately address, through land use controls and infrastructure timing, the character, pattern, and timing of growth, as well as the phasing of future sewer services
- 2) Incorporate incentives, zoning classifications and land development standards to ensure protection of important natural resources and open spaces.
- 3) Incorporate innovative subdivision design that includes greater attention to the environment, aesthetics and interconnections with nearby subdivisions.
- 4) Provide mechanisms for establishing phasing timetables and procedures, and processes for consideration and analysis of new land use, population or other data;
- 5) Assess the magnitude of development activity, the expected population and employment growth, the desires of landowners and residents in the areas, and the fiscal limitations of state, county and local governments to support additional growth and infrastructure investment.

Housing & Community Facilities

- 1) Investment Level 3 Areas may be appropriate locations for “Conservation Design” as an alternative to typical suburban style residential subdivisions. Conservation Design involves the protection of large portions of existing open space and farmland on a site, while clustering development on a smaller portion of the parcel. This design style often employs non-structural stormwater management practices, and other environmentally friendly design innovations. Developments designed in this style can

blend in with their rural settings, protect critical environmental resources on the site, and provide a high degree of value for homeowners.

- 2) Compact development would only be appropriate in Investment Level 3 Areas when associated with Transfer of Developments Rights (TDR) programs that preserve a corresponding amount of agricultural land or natural resources. The Town should define the parameters and regulations that will guide the programs in a manner that is best suited to Town conditions.

Economic Development

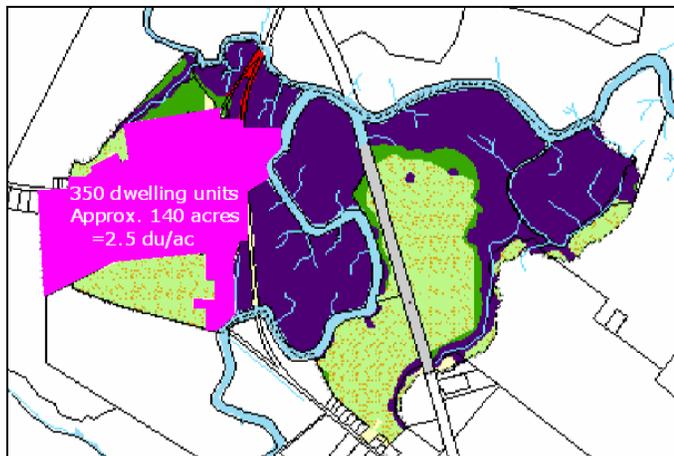
- 1) Seek opportunities for small to medium sized businesses in mixed-use, compact developments.

b. Community Goals & Visions for development of site. As provided in the 2004 Comprehensive Plan, the following community goals are relevant to the provision of community services in the Town of Frederica:

- To maintain and ensure Frederica's small town atmosphere and traditions.
- To maintain and ensure a decent quality of life for present and future residents.
- To provide adequate and suitable open space and facilities for recreational purposes.
- To protect wetlands, floodplains, ground water, and other natural environments.

c. Density and Design Recommendations. As noted earlier herein, a density of 4.0 dwelling units per acre is utilized as a base planning number to estimate build-out of the northwest parcels, to evaluate the capacity of infrastructure and facilities, and to provide a framework for a plan of services. A maximum gross density of 4.0 dwelling units per acre is recommended for the development of the northwest annexation parcels based on the following reasons:

- It is estimated that the NWWA could be developed at an overall maximum density of 3.68 dwelling units per acre under the current zoning requirements. (See Section 1 herein for details).
- A density of at least 4.0 dwelling units per acre is generally accepted as viable to provide for the efficient provision of sewer and water systems.
- Town wishes to maintain its current small town & pedestrian friendly character by ensuring new developments are compatible with scale and density of the built environment. It is noted, that the Town density is approximately 2.50 dwelling units per acre. (Assumptions: 350 dwelling units within current municipal boundaries; 140 acres in the central built environment excluding larger currently undeveloped tracts).



- New developments, including NWAA, will create a significant increase of traffic through Town. The potential to mitigate the impacts associated with high density through design may be diminished due to the physical constraints located on and surrounding the site:
 - The site is surrounded by natural features such as wetlands and waterways, which limits the potential to extend Town infrastructure and roadways.
 - Physical constraints exist that limit the potential for stub streets to adjacent properties.
 - Limited connections may create accessibility concerns for emergency vehicles.
 - Due to lack of transportation and route alternatives, the only option for motor vehicles to get to and from Route 1 is through the Town's narrow residential streets, specifically Front Street and David Street.

Compact development can provide many benefits to a community including, but not limited to, efficient use of utilities and infrastructure and walkable communities. However high density and compact development is only suitable when growth management provisions and techniques are in place to ensure the development is planned and designed appropriately. Proper design measures must take in account type, intensity and timing of development. To this end, two growth management techniques were discussed and evaluated in the planning process; 1) Transfer of Development Rights (TDR) and 2) Traditional Neighborhood Design.

Transfer of Development Rights. In a Transfer of Development Rights (TDR) program, the development rights from sending districts are transferred for use in development projects within designated receiving areas. A participating parcel in the receiving area receives an increase in the number of dwelling units equal to the number of transferred development credits in addition to the number of dwelling units that would otherwise be permitted on the parcel. The general purpose is to concentrate growth on a regional level and guide development to where it is deemed most suitable to accommodate it.

The pros and cons of implementing a TDR program, as well as the plausibility and support for such a program were discussed and evaluated. There are many benefits on a local and regional level for implementing TDRs. Generally, compact development is more appropriate when associated with TDR programs that preserve a corresponding amount of agricultural land or natural resources. The NWAA is appropriate to designate as receiving zones since the area is designated as Investment Level 2 and 3 in State Strategies and as a growth area and Primary Receiving Area in the Kent County Plan. It is noted, that Level 3 areas are less of a priority for competing State resources; however, as stated in State Strategies, the use of TDRs to achieve regional objectives should provide more justification and viability for state assistance.

Despite the advantages of TDRs, the voluntary technique is only successful when there is willingness of all stakeholders to designate an area to receive additional density. Due to the unwillingness of the Applicant/Property owners to proceed with the County-level program, the seeming complexity of administering such a program, and the perceived lack of market need; it was decided that a density transfer will not be applied to the NWAA.

Traditional Neighborhood Design (TND). Higher density should only be allowed through design principles that allow the area to support the increased densities, such as neo-traditional developments.

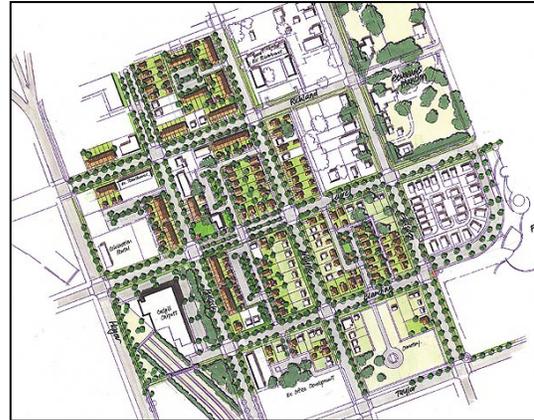
It is recommended that the NWAA be zoned for mixed-use with mixed housing alternatives that comply with Livable Delaware initiatives and Traditional Neighborhood Design principles. A

TND would promote a sense of community and provide for more compact development patterns that produce less traffic than conventional traffic development styles. Prior to annexation, the Land Development Ordinance will need to be amended to include a new zoning district since the parcels will be zoned to the Town designation at the time of annexation.

The design criteria should place emphasis on established percentages of commercial use in the overall development, including the type of commercial. An example includes requiring a specific percentage of neighborhood retail that offers daily necessities intended to limit daily trips per day and mitigate some of the demands on the local road network.

Some general principles of TND design include:

- General Design:
 - Extension of Town street network/ Street hierarchy
 - Pedestrian network
 - Use of architectural design standards.
 - Importance of quality public realm; public open space
 - Contains a range of uses and densities within 10-minute walk
 - Highest densities at development center; progressively less dense towards the edge.
 - Create a focal point of activity/ Public space at center
 - Build-to-lines
 - Narrow streets
- Walkability
 - Most goods and services within a 10-minute walk of home and work
 - Pedestrian friendly street design (buildings close to street; porches, windows & doors; tree-lined streets; on street parking; hidden parking lots; garages in rear lane; narrow, slow speed streets)
 - Pedestrian streets free of cars in special cases
- Connectivity
 - Interconnected street grid network disperses traffic & eases walking
 - A hierarchy of narrow streets, boulevards, and alleys
 - High quality pedestrian network and public realm makes walking pleasurable
- Mixed-Use & Diversity
 - A mix of shops, offices, apartments, and homes on site, blocks, and within buildings
 - Diversity of people - of ages, income levels, cultures
 - Apartments located above commercially or other non-residential uses.
- Mixed Housing
 - A range of types, sizes and prices in closer proximity



Example of neo-traditional design.

Ordinances are already in place for open space, recreation, tree protection, wellhead protection, Riparian Buffer Areas and Design Standards. The newly adopted TND code should provide additional provisions for the following:

- Percentages for commercial retail
- Percentages for residential type
- Densities, lot size, height and yard restrictions
- Other necessary provisions aligned with the aforementioned design principles

Additional design recommendations for the NWAA development.

- Locate commercial element near center and main boulevard with easy access to limit driving through residential neighborhoods and the amount of travel time.
- Locate multifamily housing, including townhomes, away from Johnnycake Landing Road. Any housing located along or near this road should be consistent with the single-family housing features of the existing built environment.
- Enhance design standards to be consistent with the desired features of the historic built environment, such as limited front yard setbacks, front porches, narrow streets and smaller lot sizes, among others.
- Promote a smooth transition of housing uses densities.
- Provide for both horizontal and vertical mixed-use structures, such as apartment units above professional offices and/or commercial neighborhood retail.
- Shift density center closest to Town and commercial uses and place lower densities and open space along the perimeter.

SECTION 3 – UTILITIES, COMMUNITY SERVICES & TRANSPORTATION

The following identifies the critical infrastructure and public service issues and provides a framework for a plan of services. The annexation and development review processes will focus on servicing the new development with necessary upgrades and improvements in detail. The Town shall administer the Annexation process per the Town Charter provisions and will submit the Municipal Annexation Plan of Services pursuant to the to Title 22, Delaware Code, Section 101 to the Office of State Planning and Coordination.

3-1. Water and Wastewater Systems. As part the Plan of Services process, a request to the applicable agencies for information on the ability to serve the proposed annexation area will be carried out. The Plan of Services will include any capital improvements needed to support the proposed density of the development, as well as, specific phasing plans or special arrangements needed to supply services to the annexation area.

a. State Strategies for Water and Wastewater Systems.

Level 2. Investment Level 2 strategies for water systems relevant to the NWAA are as follows:

- 1) Extend existing or create new systems where logical, or where they would prevent future environmental or health risks.

Level 3. Investment Level 3 strategies for water systems relevant to the NWAA are as follows:

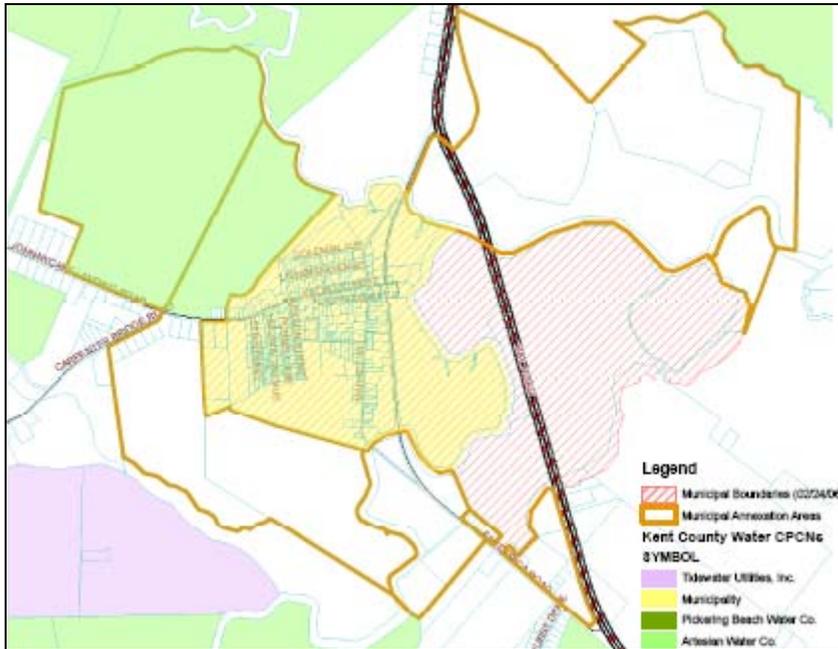
- 1) The timing and provision of sewer systems must be coordinated with other infrastructure concerns, resource protection issues, and the expected pace and pattern of growth.
- 2) State financial assistance to local government's water and wastewater facilities will be prioritized in Investment Level 1 and 2 areas before being considered in Investment Level 3. Investments needed to correct public health and existing environmental problems will be considered on a case-by case basis.

b. Water System. The Town's water system is owned and maintained by the Town. The current proposed and foreseeable developments of Waters Edge and the Erb/Sloan Property are anticipated to add approximately 478 homes to Frederica. At an assumed consumption rate of 300 gallons of water per day, the development of these properties would add an estimated 143,400 gallons of water per day to the Town's water system. Based on these determined needs, the Town has entered into a utility agreement with the developers that sets forth a plan to provide sufficient water capacity and make the necessary system improvements. Foremost, the developers have committed to construct a 300,000 gallon elevated water storage tank. The Plan of Services for the Erb/Sloan Property has recently been submitted to the OSPC for review.

As provided in Section 2 herein, a build-out of the Northwest Annexation Area at a density of 4.0 dwelling units per acre could add approximately 1,400 homes to Frederica. At an assumed consumption rate of 300 gallons of water per day, the development of the NWAA would consume approximately 420,000 gallons of water per day.

Two parcels of the NWAA described herein are within Artesian Water Company, Inc.'s Certificate of Public Convenience and Necessity (CPCN) service territory. The CPCN for the McCloskey Property (Parcel No. SM-00-131.00-01-16.00) was granted on August 23, 2005 (filed as in PSC Docket No. 05-CPCN-01), and the Vineyard Property (Parcel No. SM-00-131.00-01-17.00) was granted on February 7, 2006 (filed as PSC Docket No. 05-CPCN-34).

A CPCN currently does not exist for the Wooten Property (Parcel No. SM-00-131.00-01-15.00). In order to obtain the CPCN to serve this property, the Town will need to notify the Public Service Commission when the annexation is finalized.



Source – Delaware Public Service Commission, March 3, 2006

As required in the Land Development Ordinance, developers/subdividers shall provide required utilities at their expense and dedicate them to the Town, County, or other entity as applicable. The LDO further requires connection to the Town water system.

Annual system maintenance is not budgeted for, with periodic maintenance being completed and paid for out of the general fund. The Town should consider instituting a capital improvements program to help deal with repairs and upgrades to the water system in a systematic manner. It is further required that the Town conduct daily chlorine readings to ensure a free chlorine residual of not less than 0.3 ppm throughout the distribution system and provide monthly water works reports to the State Office of Drinking Water.

It is recommended that a water system study be conducted to determine the impact of the new development and the options available to the Town to accommodate the development. This study should investigate the water supply, storage and conveyance to ensure adequate capacity is provided for fire flow requirements, for peak hourly usage and for one-day reserve of average daily use in air.

c. Wastewater. The sewer service within the Town of Frederica is provided by Kent County. The system's current average daily use in the Town is approximately 82,000 gallons per day. For planning purposes, this section assumes that each new home will generate approximately 300 gpd of wastewater. The future wastewater demand within current Town boundaries based on approved EDUs and full build-out of vacant acreage under current zoning is 1,800 gpd. The demand for the proposed NWAA development (gpd) based on assumed EDUs provided at a density of 4.0 dwelling units per acre is 420,000. Assuming 1,900 new houses at complete build-

out of all current proposed residential projects including Waters Edge, Erb/Sloan and the NWAA, the total wastewater estimate is 647,200 gpd. See Table 8 below for itemization by development.

Table 8 – Estimated Future Wastewater Flow

Number of Dwelling Units	GPD
Current Average Daily Flow in Town (350 du)	82,000
Vacant Parcels (6 du)	1,800
Waters Edge Development (143 du)	42,900
Erb/ Sloan Property (335 du)	100,500
Northwest Annexation Area (1,400 du)	420,000
Total: 2,234 du	647,200

Assumption: 1,900 total proposed dwelling units @ 300 gpd per household.

The existing County pumping station (PS-13) is located on the south end of Market Street at the lowest point in Town. The current flow-rate capacity of the pump station is 620 gallons per minute, or 893,000 gallons per day; which significantly exceeds the estimated average daily flow rate of 82,000 gpd. The capacity would be enough to serve the estimated 647,200 gpd.

Currently, the NWAA is not within the County sewer service area. The current sanitary district map in the Frederica region is provided below. In general, the Kent County Department of Public Works plans to expand the sewer service area and wastewater-treatment plant for additional sewer capacity. The Applicant will need to contact the County to ensure that the development plans are consistent with Kent County’s planned sewer expansions and to request for extension of the service area.

Extension of Sanitary Sewer Districts. Kent County Public Works, Engineering Division is responsible for the extension of the central sewer subsystems that feed into the main conveyance system. To have a district extended, the Applicant must provide a petition with signatures from 51% of the area and complete an application. The Kent County Levy Court website details the process of extending the current sanitary district. More information can be found at the following link: <http://co.kent.de.us/Departments/PublicWorks/ExtendingSewers.htm>



Source: “Kent County Sewage Disposal District No. 1” map dated October 2006.

3-2. Public Services. As part of the Municipal Annexation Plan of Services, a letter of notification will be provided to all applicable agencies having jurisdiction for public services in the Town, and requesting information on the agencies ability to expand their service to the proposed annexation area.

a. State Strategies for Public Services.

Level 2 & 3. Investment Levels 2 and 3 strategies for public services relevant to the NWAA are as follows:

- 1) Focus on providing adequate law enforcement, traffic and vehicle safety, reduction of hazard vulnerability and needed emergency management.

b. Fire Services. The Town of Frederica has one fire company within the Town limits. The Frederica Volunteer Fire Company, Station 49, serves the Town and the surrounding area. The official boundaries of the station's area include Canterbury Road, Reynolds Road, and Indian Point Road (about a five-mile radius). The station is located at the intersection of Front Street and Frederica Road.

c. Police Services. Frederica is currently serviced by the Delaware State Police Troop 3, which is located at 3036 Upper King Road in Dover.

The Town formerly employed two full-time police officers. As the proposed development activity is projected to result in a population increase from 697 persons to 5,625 persons, the Town should examine the possibility to reinstate a police force.

As stated in the 2004 Comprehensive Plan, citizens have expressed concern about a lack of local police and that the state police take too much time to respond to a call. They feel that the problem could be solved if Frederica would hire officers. If the Town wanted to have 24-hour coverage, it would need a minimum of five full-time officers. This is based on each officer working 2,080 hours (8 hours/day x 5 days/week x 52 weeks/year) with 280 hours of leave for vacation, sick days, etc. However, this ignores other duties that make an officer unavailable for patrol and assumes that one officer could patrol the entire Town. These considerations should be taken in account in order to provide the proper level of police protection.

In addition, proposed developments in around Town will likely have significant impacts on the roadways through Town, specifically Johnnycake Landing Road, David Street, Front Street, Frederica Road and Market Street. Speed enforcement and traffic control for public safety on these roads may possibly be a major responsibility of the Police Department.

To ensure adequate police service in Town, Frederica needs to continue to cooperate with State Police until the point at which they are able to provide their own additional full-time officers.

The Town should also consider contacting the Delaware Criminal Justice Council at 302-577-5030 to inquire about eligibility for the Local Law Enforcement Block Grant Program. The program allocates State funding to local governments for the purposes of reducing crime and improving public safety. The Town should further contact local police departments for assistance when determining the public safety needs based on the projected population figures.

3-3. Educational Facilities.**a. State Strategies for Education Facilities.**

Level 2. Investment Level 2 strategies for educational facilities relevant to the NWAA are as follows:

- 1) Plan and construct new school facilities that fit into sensible development pattern.
- 2) Locate school facility contiguous on district owned property and contiguous to Town
- 3) Focus on controlling undue expansion of school transportation routes and foster community support of educational facilities.

Level 3. Investment Level 3 strategies for educational facilities relevant to the NWAA are as follows:

- 1) Schools will not be encouraged to locate in Investment Level 3 when there are suitable sites available in Investment Levels 1 and 2.
- 2) The advanced acquisition of school sites in Investment Level 3 may be appropriate, especially if school construction is not expected during this five-year planning period.
- 3) Because school construction can be a major influence on residential and other development in an area, any proposal to locate a school in an Investment Level 3 Area should be carefully evaluated to determine its impact on infrastructure phasing and land use patterns in the area.

b. School. The Town of Frederica is located within the Lake Forest School District, which serves more than 3,000 students in Felton, Viola, Frederica, and Harrington.

The Applicant of the northwest parcels annexation is considering the donation of 20 acres for the location of a new school within the proposed master planned development. As stated in the Town's 2004 Comprehensive Plan, the Department of Education recommends that the Town work with developers to set aside lands for school construction.

The Applicant will need to work closely with the Lake Forest School District, the Department of Education, Kent County, the Town, and the Office of State Planning and Coordination regarding the viability of this location for a new school and the most appropriate level of school facility needed within the school system, among other important items. In addition, indoor and outdoor facilities for community programs and recreational activities should be integrated into the design.

3-4. Transportation.

a. State Strategies for Transportation.

Level 2. Investment Level 2 strategies for transportation issues relevant to the NWAA are as follows:

- 1) Encourage development through planned transportation investment, coordination and policies consistent with the zoning and density.
- 2) Provide expansion of Town roads, public transit, and a pedestrian and bicycle network.
- 3) Encourage connections between communities and the use of local streets for local trips.

Level 3. Investment Level 3 strategies for transportation issues relevant to the NWAA are as follows:

- 1) Invest in regional roadway network.
- 2) Continue to protect the capacity of major transportation corridors such as Routes 1, 113, and 13 through the Corridor Capacity Preservation Program.

- 3) Roadway improvements that are necessary to support new development activities will not be encouraged in Investment Level 3 Areas during this planning period. The State's finite resources for roadway capacity improvements will be prioritized in Investment Level 1 and 2 areas before being allocated to Investment Level 3.

b. Transportation Goals. The following goals are a desirable condition to be achieved pertaining to the transportation and land use connection associated with the development of the NWAA. The policies, recommendations and design of the development herein should aim to support these goals.

- New developments should be an extension of Town.
- Assess and manage congestion in Town.
- Provide for all necessary off-site improvements.
- Provide for bicycle and pedestrian mobility and safety.
- Integrate land use elements such as recreation, economic center and mixed residential.
- Provide for multi-modal infrastructure and design.
- Support economic development.

Frederica has three access points: Frederica Road intersects with Bay Road (State Route 1/113) northeast and southeast of Town, and Johnnycake Landing Road accesses the west side of Town. Johnnycake Landing Road connects Bay Road via westbound Front Street and eastbound David Street. Few interior streets are looped. With the exception of Market Street, all north-south streets south of St. Agnes dead-end. Both Coleman Street and Lowber Street, which are north of Front Street, also dead-end. The NWAA is situated north of Johnnycake Landing Road, and north and west of Coleman Street. Currently, east-west traffic on Route 12 to get to and from Bay Road via Frederica must travel Front and David Streets.

There is currently much debate on the outcome that the numerous surrounding developments west of Town, including the NWAA development, will have on the Town. There is little uncertainty that the regional developments will have significant local impacts. The issue is whether additional traffic through Town would stimulate economic activity and the vitality of the Town center, or would it create adverse impacts associated with traffic congestion, such as noise, safety issues, and an increased need for maintenance of buildings and infrastructure.

It is imperative that the developers, County, State and Town form a partnership and take a regional master planning approach that optimizes the transportation opportunities, while mitigating the negative impacts. Below are critical issues and recommendations on a local level to consider towards ensuring the benefits outweigh the costs.

c. Critical Transportation Issues and Recommendations.

Integrate New Streets. As stated in the 2004 Comprehensive Plan, in seeking to maintain a small-town atmosphere while permitting growth, the Town should require that streets in new developments link to the existing Town street network. As required per Town Code, streets should be constructed in a grid pattern that mimics the historic portions of the Town. Streets shall interconnect within a development, with adjoining development, and with existing streets.

The NWAA contains many natural site constraints, such as wetlands, floodplain, stream and woodlands, which may hinder the ability to achieve the aforementioned requirements; however, it is strongly recommended that the possibility for extending the Town street network to the NWAA

be thoroughly evaluated. Potential connections and streetscape improvements should be considered at Coleman Street and Lowber Streets. It is further recommended that stub streets be provided at potential locations to connect to future development, except at the Spring Creek border, which provides a natural green belt opportunity.



Coleman Street looking west



Lowber Street looking west

Pedestrian Mobility. The compact nature of the Town and the existence of sidewalks along most of the main streets enable Frederica to be easy to navigate on foot. In seeking to maintain Frederica's small-town atmosphere, it is crucial that this remain the case.

The Town should coordinate with the Developer(s) and DelDOT to ensure an overall pedestrian circulation network by maintaining and expanding pedestrian and bicycle paths, where appropriate, to connect new developments to the existing Town. It is also recommend that the sidewalk network be expanded for areas in Town, such as Coleman, Lowber, Hoey Streets and Johnny Cake Landing Road, which are currently not serviced by sidewalks. Every effort should be made to encourage pedestrian and bicycle transit between Town and the northwest annexation area; especially if street connections from Coleman and Lowber Streets are not possible.

The NWAA should include the provision for safe vehicular and pedestrian mobility within the site and to adjacent sites. The development should be pedestrian oriented and provide a network of pedestrian pathways and sidewalks. Sidewalks should be provided on both sides of all internal streets. Further, the development should provide for all potential connections, including sidewalks and footbridges to existing Town, where possible, and linking the Town with any future commercial uses in the northwest parcels. In addition, pedestrian walks should be provided connecting all public and commercial uses, including the existing school and the Post Office.

Traffic calming methods shall be facilitated to David Street and Front Street as to enhance pedestrian mobility and maintain sufficient traffic flow. Recommendations to do so include:

- Include traffic control devices and pedestrian signal
- Narrow the node to reduce pedestrian crossing distances
- Tighten the turning radii to reduce conflict vehicular speeds
- Place red brick pavers for sidewalks and crosswalks

Within the development of the NWAA, the following design factors need to be considered to ensure pedestrian-friendly mobility:

- Street connectivity

- Block length
- Intersection design
- R.O.W. widths (Pavement, Travel lane, Parking)
- Turning radius
- Street hierarchy
- Traffic calming
- Off alignment pathways and/or trails
- Visually narrow the lanes to reduce vehicle speeds
- Provide a conveniently located bus stop
- Cultivate tree plantings along corridors
- Provide minimum 5' sidewalk with landscaping as buffer to the road

Traffic. Many respondents to the 2003 public-opinion questionnaire indicated that there was too much traffic in the Town during the summer and that there was too much truck traffic. This can cause an increased need for street maintenance and result in a dangerous situation, as large trucks travel down narrow streets.

There are twenty-three (23) developments in the Frederica region, which will certainly have significant local impacts. DelDOT is coordinating a Transportation Improvement District that will study the cumulative impacts and necessary improvements that may be necessary such as intersections, widening, etc. The Traffic Impact Study will look at capacity and will need to look at the collective whole of all developments.

Due to the many natural constraints within and around Town and limited State funding, an east-west by-pass to deflect through traffic to and from Route 1 is unlikely. Therefore, to lessen traffic impacts in Town and promote pedestrian-friendly mobility, the Town should evaluate the possibility of investing in a streetscape improvement project. Streetscape improvements may not only affect the appearance of an area, but also may contribute to the safety and convenience of vehicular, pedestrian and bicycle mobility. Improvements may include design features such as brick pavers, stamped concrete, tight turning radius, crosswalks, among others. Street features may include benches, light standards, trash receptacles, tree grates, bicycle racks and signs, which would all assist to create a positive image, promote a pedestrian friendly environment and assist to stimulate economic activity.

A capital improvements plan will assist to prioritize transportation improvement needs and will establish a systematic approach to address these needs. The capital improvements program should identify the needed improvements and establish sources of funding. The program will further provide for the bidding and project scheduling process.

Public Transportation. There is one Dart First State bus stop in Town. Bus Route 303, connecting Dover to Georgetown, stops at Frederica Road and Front Street. Due to the significant amount of proposed dwelling units, the Town should coordinate with the Delaware Transit Corporation (DTC) to discuss current needs and future demand for increased bus service including schedule, frequency and locations of stops.

The Developer should also work with DelDOT to coordinate roadway, entrance and pedestrian walkway improvements within the new development and along Johnnycake Landing Road. Sheltered bus stops should be designed in with the commercial element of the new development. This may require the need for additional right-of-ways or easements to make possible for buses to enter and pick-up safely.

Design elements focusing on pedestrian safety and convenience should be considered to encourage public transit. Bus drop off/pick up locations should be designed into the project plans. It is recommended that a central location for a bus stop area be provided.

Street Maintenance. The Delaware Department of Transportation maintains the four major streets throughout the Town – Bay Road, David Street, from Front Street to Bay Road, Front Street, from Bay Road to the western Town limits, and Market Street, from the Murderkill River to Bay Road. The State is also responsible for maintaining and planning upgrades to highways and roads in the surrounding area.

The 2003 public process indicated some dissatisfaction with the way that streets are maintained in Town. There is no long-term budgeting for the maintenance and repair of local streets and sidewalks. The Town should develop a routine maintenance schedule and budget for Town-maintained streets. As part of this maintenance program, it is recommended a windshield inventory survey be conducted recording the miles of street, drainage and conditions of curbing, sidewalks and paving, among others. Some funding for repairs comes through Municipal Street Aid Funds.

Any plans for any upgrades to State streets will be based on the Traffic Impact Study (TIS), which will be coordinated by the developers' engineers and reviewed by DelDOT. Further, Town officials have indicated that there are major safety concerns at the intersection of Frederica Road and Route 1/113. The Town should request DelDOT to investigate this intersection as part of the TIS. The State has a Highway Safety Improvement Program that ranks problem intersections in the State and makes recommendations for safety improvements.

3-5. Open Space Environment/ Natural Resources. Frederica, including the NWAA, exists amidst many ecologically important elements. Wetlands, forest, Spring Creek, and streams within and surrounding the site serve important ecological and social functions. Development of the NWAA should be guided by recognition of the ecological and aesthetic value of these elements.

The Town has adopted environmental provisions as part of the LDO with the purpose to achieve the Town's goals to protect its vital natural resources, such as open space protection, riparian buffer areas, and tree protection and planting provisions, among others.

a. State Strategies for open space and natural resources.

Level 2. Investment Level 2 strategies for open space and natural resources relevant to the NWAA are as follows:

- 1) Promote establishment of greenways and maintain green buffer areas between intensely developed areas.
- 2) Provide transitions between Level 2 and Level 4 areas.
- 3) Invest funds to reestablish forests within community open space, plant new trees, maintain existing resources and promote a contiguous open space network.

Level 3. Investment Level 2 strategies for open space and natural resources relevant to the NWAA are as follows:

- 1) Promote establishment of greenways and maintain green buffer areas between intensely developed areas.

- 2) Provide transitions between Level 3 and Level 4 areas.
- 3) Promote forest protection to provide recreational and environmental benefits.

Investments in “green” infrastructure such as agricultural preservation, natural resource protection, parks and open space may be appropriate in Investment Level 3 areas, especially in the NWAA. State Strategies asserts that the State will continue to invest in maintaining the quality of existing infrastructure and regional facilities in these areas, while supporting county and municipal growth management efforts where possible in this Investment Level.

b. Open Space and Natural Resources Goal.

- To protect wetlands, floodplains, ground water, and other natural environments.

c. Soils. According to the USDA-NRCS Soil for Kent County, Delaware (1971), the predominant soils in the NWAA belong to the Sassafras Series. This group of soils, which is formed in very old, sandy sediments, is generally easy to work with, being suitable for most uses. The soil characteristics relating to permeability, water capacity, and water table depth are explained as per the Kent County Soil Survey; in order of most surface area of the site to least.

Sa – Sassafras. This soil is well drained. The slowest permeability within 60 inches is moderately slow. Available water capacity is very high. The shrinking of the soil (when dry) and swelling (when wet) potential is low. (Note: Shrinking and swelling can damage roads, dams, building foundations and other structures, and plant roots.) This soil is not flooded and is not ponded. The water table is deeper than 6 feet. This component is not a hydric soil.



Source: Official NRCS Soil Map, Sheet 32, Kent County, DE

The majority of the NWAA consists of SaB, Sassafras sandy loam, which has a gradient of a 2-5% slope. The survey points out SaB is “one of the most productive soils in the country, and it is the most extensive of the well-drained soils. It is intensively cropped, especially where it occurs in large areas. Other classifications of Sassafras soils exist in small amounts such as SaA, SaC2 and SaC3 in the north of Town and SaC3 in the south. The difference in classification is determined by the slope and level of erosion in these areas:

- SaB – Sassafras Sandy Loam, 2-5% Slopes
- SaA – Sassafras Sandy Loam, 0-2% Slopes
- SaC2 – Sassafras Sandy Loam, 5-10% Slopes, Moderately Eroded
- SaC3 – Sassafras Sandy Loam, 5-10% Slopes, Severely Eroded

Wo – Woodstown This soil is moderately well drained. The slowest permeability within 60 inches is moderately slow. Available water capacity is very high and shrink swell potential is low.

This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. It is in non-irrigated land capability class 2w. This component is not a hydric soil.

Mv – Mixed Alluvial Land The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 9 inches. It is in non-irrigated land capability class 8w. This component is a hydric soil.

d. Floodplains, Wetlands & Recharge Areas. The NWAA and surrounding area contains designated wetlands as indicated by the State Wetland Mapping Project (SWMP), Delaware Department of Natural Resources & Environmental Control, Division of Water Resources, 1996.

Floodplain. The Vineyard and McCloskey parcels contain designated Zone AE (100 year) floodplains as depicted on the most recent Flood Insurance Rate Maps (FIRMs) developed by the Federal Emergency Management Agency (FEMA). As per the LDO, no building may be constructed within 30 feet of any floodplain.

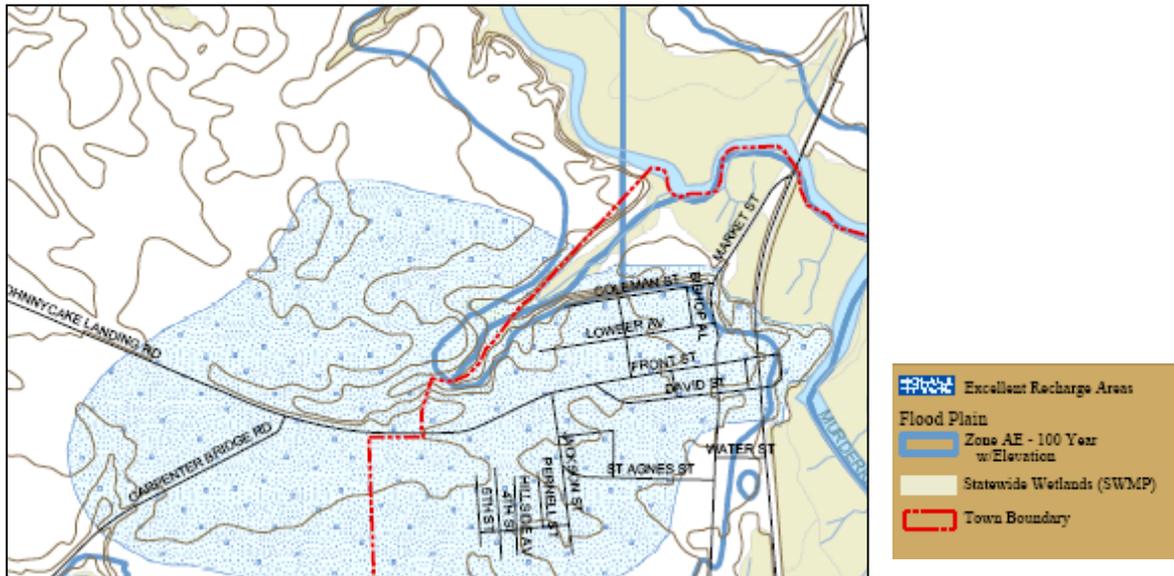
Wetlands. As per the 1992 Statewide Wetlands Mapping Project, the site contains state designated. Wetland delineation will need to be provided displaying information on the type of wetlands present on the sites and the boundaries of each. A wetland delineation plan will need to be conducted in accordance with the methodology established in the U.S. Army Corps of Engineers Wetlands Delineation Manual. This delineation should be verified by the Corps of Engineers through the Jurisdictional Determination process. A Delaware Subaqueous Lands Jurisdictional Determination should also be conducted. The applicant will be advised to contact the Wetlands and Subaqueous Lands Section of the Division of Water Resources of DNREC for permitting requirements and services.

As per the 2004 Comprehensive Plan, root mats and other wetland vegetation are responsible for slowing floodwaters and distributing floodwaters more evenly, which helps prevent erosion and reduce flooding. In addition, these wetlands perform many valuable ecological functions for area wildlife and are best left undisturbed. The wetlands along the Murderkill are classified Tidal and are subject to state regulation. The surface area of Frederica has been determined by DNREC as having excellent recharge properties that the Town should consider protecting. The Frederica aquifer is primarily formed of sand and gravel. Because the aquifer is located near the ground surface, it is vulnerable to contamination and is not generally used as a drinking-water source. Recharge of the Frederica aquifer occurs in its subcrop area of sand overlain by the Columbia Formation.

Particularly because of the environmental sensitivity of this area and its status as a proposed State Resource Area and Natural Area, development should not be located in the wetland areas.

Excellent recharge area. As per the Environmental Features map, the majority of the site is within an excellent recharge area. A recharge area is a water resource protection area designated as having the best potential for groundwater recharge. Recharge areas possess high percentages of sand and gravel that have "excellent" potential for recharge as determined through a Stack Unit Mapping Analysis performed originally by the Delaware Geological Survey. Recharge areas were delineated using methodology described in the following report: Delaware Geological Survey; Open File Report No. 34 entitled "Methodology for Mapping Ground – Water Recharge Areas in Delaware's Coastal Plain," dated August 1991.

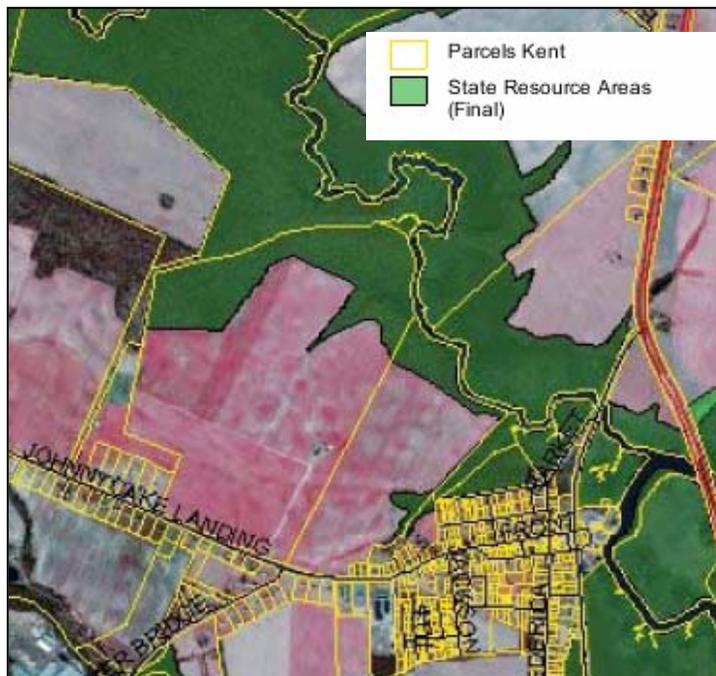
The Town may want to require the use of permeable paving surfaces for the sidewalks, pedestrian crosswalks, parking areas and driveways to reduce the adverse impacts of impervious coverage. In addition, as part of the LDO code, Frederica adopted regulations to protect public water supply wells, and the excellent aquifer-recharge areas as identified on Map below. The regulations limit or prohibit the storage and transfer of toxic materials in these areas as well as limit the amount of impervious cover.



Source: Town of Frederica Comprehensive Plan 2004.

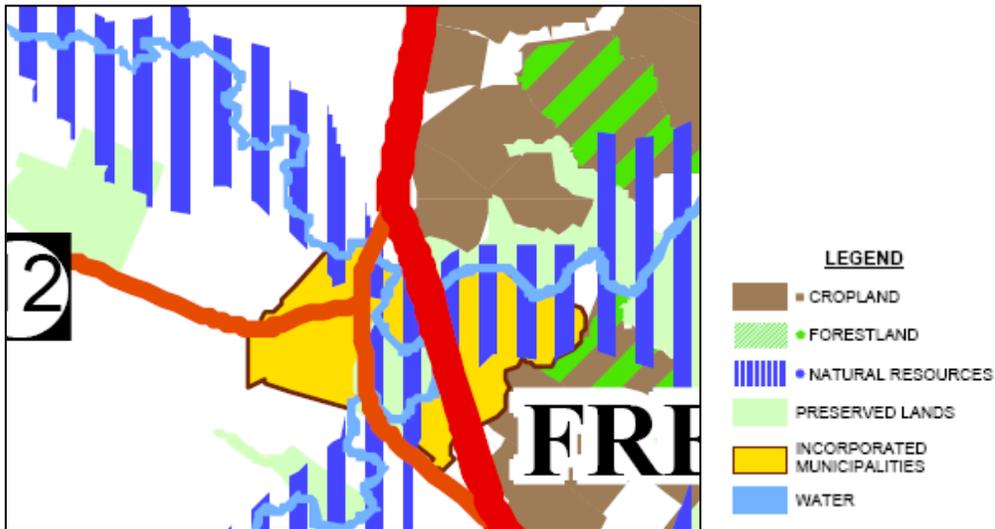
f. State Resource Area & Green Infrastructure. Much of the land along the northern borders of the NWAA is in the proposed as a State Resource Area (SRA) and Natural Area due to their ecological and conservation value. Consistent with SRA and existing floodplains and wetlands, the Green Infrastructure of Delaware map, dated March 2004, identifies the northern border of the site as a Natural Resource Area. As part of the Livable Delaware initiative, the purpose of Green Infrastructure is to support and protect precious natural resources while allowing for Delaware’s continued economic growth and development.

Green Infrastructure is a “network of ecologically important natural resource lands of special state conservation interest. Generally, it depicts corridors of the largest, most connected natural habitat throughout the state, including forests, uplands and wetlands.



Source: Interactive Proposed SRAs and NAs; DNREC; October 23, 2006

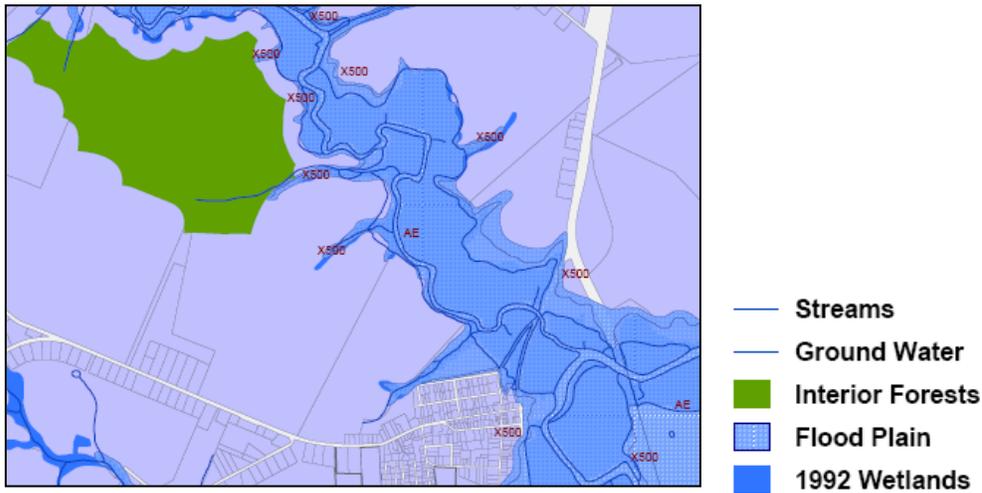
The Delaware Department of Natural Resources and Environmental Control administer efforts and programs that aim to protect the state’s Green Infrastructure lands. More information about the program is provided at <http://www.dnrec.delaware.gov/gi>.



Source: Green Infrastructure of Delaware Map; March 2004; Department of Agriculture & DNREC.

g. Forested Area. As shown on the Kent County Mapping website, the site contains interior forests. Due to the likely sensitive environmental nature of the site, every effort should be made to minimize tree loss and clearing activities. Furthermore, a vegetative transition zone between the forested RBA and development activity area is recommended as set forth in the LDO. It is noted that the boundary, nature and extent of wooded areas, specimen trees will be required information for site plan review.

The forest areas substantially benefit water quality and wildlife habitat and contributes to a contiguous open space corridor along the Murderkill River. Due to the sensitive environmental nature of the site, every effort should be made to minimize tree loss on the site. In addition, tree planting and reforestation is encouraged in protected passive open space areas, including along the riparian corridor of the Spring Creek and its tributaries.



Source: Kent County Mapping, October 23, 2006

The aforementioned environmental sensitive areas, for better or worse, may hinder the extension of Town streets and infrastructure and accessibility. As an extension the Murderkill River riparian corridor, the buffer protection of Spring Creek and its tributaries may assist to create a desirable greenbelt that separates the community from surrounding traffic and developments.

During the design and construction of the NWAA project, all reasonable design approaches must be taken that minimize adverse impacts to the environmental sensitive area, while providing for adequate access and Town expansion.

h. Open Space - Parks & Recreation. As stated in the 2004 Comprehensive Plan, the elementary school in the Town provides the only recreational facilities in Frederica. Nearby parks include Lebanon Landing County Park in Dover and Killens Pond State Park in Felton, which offers fishing, boating, swimming, and other recreational activities.

In seeking to provide residents with adequate open space and recreation opportunities, the Town Code requires that any new developments set aside a percentage of unconstrained land for recreational purposes and ensures that existing open spaces are protected from development that prohibits their recreational use.

Per the LDO, all protected environmental features shall be set aside as passive open space permanently protected through deed restrictions or conservation easements. Active open space will need to be provided at a rate of 435 square feet per unit. Assuming 1,300 dwellings built at a density of 4.0 dwelling units per acre, the required active open space in the NWAA would be approximately 13 acres. The LDO further states the Planning Commission may require improvements in the active open space intended to meet the needs of the community and should be integrated with passive open spaces and natural areas.

i. Riparian Buffer Area. Per the LDO, a Riparian Buffer Area (RBA) will be required at a minimum 50 feet from any wetland delineation or 100 feet past each top of bank of Spring Creek River and its tributaries, whichever is greater. No development, including lot lines, structures or stormwater ponds are allowed to be located within the RBA. The RBA shall be permanently protected passive open space via dedication to the Town, deed restriction or conservation easement.

As noted in Section 2-5c herein, additional protection of the riparian corridor along Spring Creek and its tributaries through an on-site TDR program would assist to create a contiguous open space network connecting the PDR site west of NWAA and the protected riparian corridor of the Murderkill River.



Spring Creek

In addition, to the aforementioned requirements and recommendations, the environmental resources and sensitive natural areas within and around the NWAA shall be carefully considered and accommodated by all applicable governing state and local agencies, including, but not limited to, the U.S. Army Corps of Engineers, the Delaware Department of Natural Resources & Environmental Control (DNREC) Division of Water Resources, and the Kent Conservation District.

3-6. Administrative Capacity. As recommended in the 2004 Comprehensive Plan, the Town hired a part-time staff person to serve as the code enforcement officer. In addition, a staff person should represent the Town's interests in working with and providing feedback to various state and county agencies. For example, this person might be responsible for responding to the County when there is proposed development near to the Town or work with DeIDOT on a traffic impact study for a proposed development within the Town.

The Town should establish a Capital Improvements Plan to meet predicted infrastructure needs. The CIP should allocate funding for streetscape improvements along Market, David and Front Streets, and other prioritized improvements.

The Town should seek opportunities to establish a tax increment financing and/or special development districts to finance infrastructure and development impact costs.

The Town should enhance review standards to be consistent with the design recommendations established herein.

APPENDIX B. TOWN WORK SESSION COMMENTS

At the Town work sessions held on October 2 and 16, 2006, participants made comments and raised questions regarding the annexation proposal for the McCloskey, Vineyard/and Wooten properties identified herein as the northwest parcels. These comments and questions are listed below, and in most instances were integrated into the identified critical issues and recommendations in the Comprehensive Plan Amendment. The Plan Amendment is anticipated to be submitted for State approval and Town adoption in January/February 2007.

Two Work Sessions focused on the following topics:

1. October 2, 2006: Future Land Use and Annexation
2. October 16, 2006: Transportation

Work Session 1 – October 2, 2006 – Future Land Use and Annexation

Transfer of Development Rights (TDR):

- Michael de Petit Mange of Kent County Department of Planning explained the County TDR program.
- Some possible sending areas include lands west of Route 1, currently used for agricultural purposes. Under the County program, these lands have the highest credit transfer to make more marketable (1.5 dwelling units credit per acre preserved).
- These lands are in the Coastal Zone Overlay, which is intended to be a companion of the TDR ordinance. The overlay lowers density in area (1 unit per 10 acres), but still allows the transfer of 1.5 dwelling units credit per acre preserved.
- The feasibility of using TDR to transfer development rights from the Fannin Property, which is mostly forested wetlands, to the Schiff Property was discussed. This property is completely in the 100-year floodplain. Town code prevents development in the floodplain.
- There was question that, because TDRs are generally a regional scale program, how TDRs would be used on a site specific level. It was recommended that if the Town does not plan to use TDRs towards other sites and projects, then a program model after the County TDR program may not be appropriate. There are other options available, such as an on-site transfer. The Town could define specific areas and acreage to protect on a single parcel. The Town could transfer credits from one portion to another portion to create a protected band around the edge. In this case, the credits would be transferred from a zero density area (for the protected band) to a high density center. This concept could allow the permitted density and number of dwelling units under current underlying district, but concentrate it to a smaller area.
- The first concept plan for the McCloskey/Vineyard properties placed the density around 4.8 dwelling units per acre. Stacked townhouses were part of this concept design. The density will go down if the plan does not provide stacked townhouses, which the Town has expressed

that they may not want see for this development. The latest sketches are down to 3.2 gross density, which excluded the stacked townhouses.

- The Town code permits 6.0 dwelling units per acre as part of the Planned Unit Development conditional use option of the R-2 zoning. This high of a density may not be appropriate without a commercial element and proper design measures.
- TDRs are a regional issue. The Town should look at areas it wants to preserve. (i.e. east of Route 1). Plus, there needs to be market for TDRs, in that there needs to be a site [and property owner] that is willing and capable of supporting additional density. A goal of the State is to encourage growth where it is deemed appropriate (such as town, and within the County growth zone). The original sketch of the McCloskey/Vineyard Property development was approximately 1600 dwelling units, plus a commercial component. This high density with this many units is going to require the consideration and planning of many other factor that go along with such development, more notably transportation, infrastructure and public services- The impact and needs to accommodate the development is going to occur regardless if the development is in the Town or the County. In addition, it is important and valuable if the Town works with the County regardless of changes on annexation to Town or developed under County provisions.
- A component of TDR on how to use TDR in a Town ordinance is under consideration for legislation. This probably would not affect the County, but would make available for Towns willing to take credits a portion of the transfer value for infrastructure upgrades and improvements to accommodate the additional growth.
- Community Development Districts (CDD), a form of a special tax district enable a town to sell bonds used for infrastructure improvements to handle the higher density, then the bonds would be paid back from by special assessment in the new development. This technique is currently allowed in Bridgeville, Georgetown and Wilmington, but a current tool is not available to municipalities, as it is under legislative review. The State would like to make it available with the caveat of using TDR. If a town wished to utilize CDD, then they would need to do so through a TDR. However, Bridgeville, Georgetown and Wilmington previously did it through a charter change.
- In order to make TDRs work, you need locations where TDRs will be welcomed. To make that work you need to make funding available for infrastructure. The State vision is that most developments will be master planned areas and will look at the whole picture, in terms of impact assessment, design coordination, funding, among others.
- Need to look at the developments together and what the cumulative impacts will be. What are the local road networks going to look like? Where are the future schools going to go? How are the sidewalk and trails going to connect? In addition, what is the sewer capacity and connections?
- Do not give density away without considering the cumulative impacts. The State is generally supportive of municipalities encouraging higher density and commercial elements with developments, where infrastructure is existing and available.

- Rather than annex at 7.0 dwelling units per acre, work with the County and agricultural land owners. Farmers are willing to sell their development rights, but there needs to be a market for them.

Transportation:

- There is much development in the vicinity of Route 12 and Carpenter Bridge Road, which is going to change this area. These roads are currently narrow which need to be studied. Further, the majority of cars will go down Front Street in the morning to get to Route 1 and David Street in the PM after work, which will certainly have major impacts- positive and negative.
- The need and feasibility for a ring road was discussed. A question was raised on if the Town used TDRs, would it help get ring road? Does it increase their role in the transportation funding and how and when improvements occur?
- An advantage of a ring road is that it may alleviate traffic in Town, which is good for commuters from Route 12 to Route 1. A disadvantage however, is that it may draw traffic from the Town center (or future commercial center) and may hurt commercial development in Town.
- There are interchanges planned. There are many developments planned south of Town in the County growth zone.

Joint Planning:

- Good models exist in other parts of the State, which employ the concept of a joint county/town master planned concept. In the southern New Castle County area, a Memorandum of Agreement was signed between the State, County, multiple school districts and multiple towns for the purpose of comprehensive land use planning of infrastructure, transportation and services. Therefore, the process does not need to be on one agency; it can and should be the collaboration of multiple agencies.
- Westtown is a good example of a collaborative master planned project. It involved the efforts of multiple developers, multiple property owners and multiple agencies, including DelDOT, in the development process.
- The Town needs to have conversations with DelDOT. Let concerns be known early and push the issues. The Town needs to get DelDOT thinking about the Town's needs now. If a development plan is approved, then we lose that option to build necessary improvements such as connections, a ring road, etc. Currently, properties that may be viable for a by-pass are being sold to developers depleting the potential for locations for such projects.
- If a connection [by-pass] occurs at all, then the only option will be south of Town. The road would start at the bend outside of Frederica, cross high ground, come in through the West Property; and possibly connect to Carpenter Bridge Road. It would be planned to cut down on costs for bridges.

- It is currently unsafe to ride a bicycle on Johnny cake Landing Road and Carpenters Bridge Road. This is even recognized by the State's bicycle road map.
- A question was raised that if a municipality utilized TDRs, then are they more likely to receive State funding? The State is encouraging coordination regardless of the use of TDRs and are available to assist with the process. There is nothing formal requiring TDRs. However, in a case where the State is asked to go above and beyond, a town using TDR, may receive priority in a work schedule. DelDOT and other agencies also use the State Strategies document.
- Now is good timing for collaboration in planning efforts as Kent County is updating their Comprehensive Plan while Frederica is amending theirs.
- Now is the time to think about and provide valid reasons to reserve right-of-ways for future needs. These may be areas to not build on due need for future infrastructure (such as road connections, widening, bridge, etc.). Development rights should be sent from these areas to where it is more suitable.

New Zoning District:

Types of residential/ commercial uses:

- The Town believes a supermarket is needed, as well a service commercial, such as a bank, a drugstore and similar neighborhood services. The Town has many elderly that do not want to and do not feel safe to travel Route 1 highway for these necessary services. The closest supermarket is in Milford.
- County is informal discussing the Canterbury and Route 12 as a node that could accommodate commercial/service uses. This location is a mid-point that would serve the new residential developments in the County, as well as Frederica. However, the area is currently not zoned for commercial. This would likely be met with opposition, but now is the time to discuss where commercial uses should be located.
- It is questioned that commercial uses here may place pressure to develop west of Town, rather than in Town.
- The proposed commercial uses are still undecided. The commercial element is still not guaranteed for this development. It depends on what the market will fair.
- A supermarket would be easy to finance do to the demand in the area. The need and demand for commercial is evident.
- Office and professional uses, such as medical offices is desired. This would help to provide jobs and reduce travel time for residents.
- A commercial element for this site should be required. If it is not a requirement, then may not see commercial. Make recommendations for type of commercial. An option could be to tie density to commercial use percentage, which may provide incentives to build commercial.

- If have higher density then have market for commercial. The Town is experiencing high growth pressures, which would be enough to support commercial uses. The commercial element may help to increase tax revenue, which would help to build infrastructure that is currently strained.
- Each neighborhood should provide for own stores. People look for convenience, especially retirees, which make up a decent portion of Frederica's population and growth trends.
- There are an increasing number of people looking for more walkable scale developments with conveniences. Forward thinking developers realizing creating and catering to this market trend, and providing market desired amenities for the community and town.
- However, commercial may not be the first to be developed. They will be a point where it will be very important to have a commercial node in some location and this site is certainly a central location. Communities need to think far enough ahead to reserve areas for commercial before it is too late.
- Delaware has generally seen the residential boom and this has now created the need for commercial development to serve those houses.

Review process, standards and criteria:

- A developer's plan typically starts with nice idea and the best intent, but can be diminished by rigid standards and an exhaustive review process. A town may want something, but when the developer has to go through a many steps to get there, then they may not be able to provide all the town desired elements. When developers see additional steps in the process to do something that want to do, they must also think about how to get project started faster and more cost effective. Therefore, the new zone should balance public input review, but make it streamline and flexible enough for developers wanting follow through on their best intent. The code needs to flexible to allow for new urbanist ideas, rather than restrict and limit.
- If many of the uses are conditional uses and many conditions are placed for annexation, then this creates the need to go through another layer to get each use approved. The R-5 mixed use may include a bank, supermarket, drug store. There is concern that too many conditional uses and little permitted uses create uncertainty for a developer. Developer typically does know what commercial uses will be because of market trends.
- An advantage of conditional uses is that it allows additional input from the Planning Commission.
- Development could be done in stages. Staging allows developers to make a profit during construction. Conditional uses would allow staged development.
 - 1 – Small shops and medium density residential.
 - 2 – Higher density residential and larger retail.
 - 3 – More residential.
 - 4 – Recreational uses.
- There are so many "nightmare" scenarios with allowing all permitted uses. Conditional use provides one chance to make a decision.

- Developers want assurance and a guarantee of a set plan. If designate as commercial then want to develop as commercial. The developer is looking for certainty that they will be able to make return on investment. They need to know early before too much money is invested.
- Develop should ask and coordinate with the Town about commercial uses.
- The uses cannot be all conditional uses; however, it cannot be all permitted uses without additional measures.
- One option is to have a list of permitted uses. Then have performance measures (such as design standards, buffers and landscaping for intense uses) to ensure the desired character and impacts are minimized.
- The Town would like to have an idea of what is going in the development, and would like to have some say. The Town would like to have a general area of what is going to be commercial and residential, and where these uses are going to be located.
- Again, master planning is good approach. A good example is Eden Hill in Dover: Approvals were given for the overall concept. Then Design Standards were reviewed. It is important to ensure that the plans are held to the same criteria throughout, whether it is through performance standards or design standards. This helps to build trust on both sides of equation. Master planning has staged development and performance criteria at various stages.
- Potential Phases:
 - 1 - Zoning – Concept stage agreed upon. This is going to be commercial, office, residential, with characteristic.
 - 2 - Preliminary – Subdivision stage – Show lots, streets, design standards, not too explicit, setbacks, mixture of uses, etc. The language needs to be flexible, but explicit enough where the Town is aware of the architectural them and where and what the uses will be.
 - 3 - Final Plat – By right project tied to a plan.
- The new code and review process should find balance between detail and flexibility because what designing today is being built tomorrow. The designer needs to have flexibility for movement of lots and road design, etc. Do not want to be painted in the corner too early in the process.
- When elements and locations need to change, then the review process needs to be flexible enough to so that the developer does need to go through the entire process again.

Design:

- Currently, stacked townhouses are not desirable in the Town. However, the Town would like more information and detail on how they would look before a decision is made. There are creative ways to provide multi-family housing. Allow the developer to have the flexibility to be creative. Flexibilities in the code with performance measure and/or design standards may help to facilitate creative use of townhouses.

- Apartments above commercial are desired, but depend on the type of first floor commercial use. An example of residential over supermarket would not be appropriate. A good example is residential apartments above neighborhood scale retail to provide a main street feel.
- The design should provide transition of density on the site. Some areas are applicable to lower density, and vice versa. The Town would not like to see too many townhouses. Townhouse should not be designed near the road and would rather have single family lots as to create a transition into the Town and to work in with the character of the existing Town. The Town does not want identical units.
- The ordinance could describe architectural standards prescribing the maximum size, style, materials, scale, etc. It is important to give a palette of choices and to not regulate too much, but do not leave up to their own imagination, as well. It is a balancing act of providing specificity and allowing for creativity and providing options. The standards and review criteria needs to transcend the transfer of owners and developers.
- The design should not segregate by housing types (Example 150 townhouses packed into an area surrounded by single houses). Should integrate single family with multi-family.
- Frederica has a good point of reference. The built environment is probably the closest to the traditional small town that State Planning is encouraging through Livable Delaware initiatives. Examples include front porches, have houses close to the sidewalk, narrow streets, and this is uniform throughout Town. The existing character is a model for future development.
- The Town does not want “New Frederica”, which are called “Newtown”, “Harbourtown”, etc., and which separate new developments for existing Town. The Town does not want a conventional suburban subdivision. The Town wants a continuation of Town and for new developments to be integrated. The new developments should not have different names and should just have street names and signs consistent throughout Town. New developments should be consistent with Livable Delaware initiatives and provide a sense of character that blend in with Town.

Work Session 2 – October 16, 2006 – Transportation

Transfer of Developments (TDR) [new comments]

- The Applicant is not interested in a TDR option. The applicant believes that lot sizes should dictate density rather than artificially determining density. It is noted that the project could do, by-right, a 3 dwelling units per acre in the County. The applicant wished to annex because of design flexibility in Town.
- The Town is leaning towards the preference of using on-site density transfer in order to make up for developable area lost in undevelopable areas, such as wetlands. In this, more density would be given in certain areas. The Town does wish to work with the developer and give as much flexibility as they can.

- The housing market is less strong, so the developer desires to provide a variety of housing types, such as starter townhouses to single family house in same community, and even is contemplating age restricted housing to create “full circle”.
- The Town is not that interested in TDRs because it (the site) provides the density the developer may want under County zoning.
- State Planning is an advocate for the use of TDRs. Indeed, TDRs are only successful when both sides of the equation are met. In this, credits from sending areas are provided and receiving areas are willing to accept additional zoning.
- The McCloskey Property is currently multi-zoned with high density residential, medium density residential and commercial. It is noted that the parcel is split zoned that would not allow for design flexibility.
- The Applicant noted the once coordinated plan is now fragmented because the option has expired to purchase. The McCloskey Property is currently under possible contract with a new buyer. Therefore, the two properties coming together as one design are out of the applicant’s control at this time.
- The Applicant would consider TDRs in Kent County, but does not wish to use the option in the Town for this project.

Transportation/ Land Use Goals:

- New developments should be an extension of Town
- Assess and manage congestion in Town.
- Provide for all necessary off-site improvements.
- Provide for bicycle and pedestrian mobility and safety.
- Integrate land use elements such as recreation, economic center and mixed residential.
- Provide for multi-modal infrastructure and design.
- Support economic development.

Integrate New Streets:

- In seeking to maintain a small-town atmosphere while permitting growth, the Town should require that streets in new developments link to the existing Town street network.
- *Is the extension of the Town’s street network possible due to the natural site constraints? (i.e. due to existing wetlands, floodplain, stream, woodlands).* The northwest parcels are landlocked. Spring Creek is to the north. A protected agricultural site is west. A stream and forested wetlands are east. This may limit the potential for stub streets and connections.
- An advantage of extending Coleman Street and/or Lowber Street is that it may alleviate traffic on Front Street and David Streets, and would promote mobility throughout Town.
- If extension of streets is not practical, then adjustments need to be made. Natural constraints are an important concept. It is possible to get a permit for a bridge; however if you are going

to spend a “million dollars just to get 100 people across it”, then it may not be worth. It then might be worth to provide foot bridge. DelDOT is generally in favor of these concepts: connections, stub streets, etc.

- *Are there opportunities for connections north of property?* Connections and access are limited due to natural constraints and majority of the northern lands are either developed or tidal marshes.
- For instance, is there a way to get to Barretts Chapel Road or Andrews Lake Road? Probably not, it is all wetlands.
- The Town and governing agencies need to look at the potential for undesirable consequences. In doing so, agencies need to look at the details including the volume of traffic, width of roads, etc. What is the volume of traffic flowing east in the AM? What are the impacts to neighbors?
- The Town may want to look into roundabouts for traffic calming.
- Market Street, south of the Spring Creek Bridge and north of Coleman Street, floods at high tide. The Town should coordinate with DelDOT to discuss the raising of this street.
- DelDOT will look into details and consequences at the preliminary review stage. The design should look at the general concepts upfront rather than create major changes late.
- Is it possible to extend the proposed access ramp at the northern Route 12 and Route 1 connection down to Market Street? The Town should coordinate with DelDOT to discuss design of the interchange. Design has already started, and is expected to be done by 2008 and start of construction in 2009.
- Is it possible to extend Coleman Street to Route 12? Maybe not, because this area is marsh.
- The Comprehensive Plan should provide general recommendations, such as “make extensions where possible”.

Pedestrian Mobility:

- The compact nature of the Town and the existence of sidewalks along most of the main streets enable Frederica to be easy to navigate on foot. In seeking to maintain Frederica’s small-town atmosphere, it is crucial that this remain the case.
- The Town should ensure future pedestrian-friendly infrastructure by maintaining and expanding the sidewalk network, where appropriate, to encompass those areas closest to the Town center not currently serviced by sidewalks.
- The following design factors need to be considered to ensure pedestrian-friendly mobility.
 - Street connectivity
 - Block length
 - Intersection design
 - R.O.W. widths (Pavement, Travel lane, Parking)

- Turning radius
 - Street hierarchy
 - Traffic calming
 - Off alignment pathways and/or trails
- The developer should seek opportunities to provide pedestrian and bicycle transit between Town and the northwest annexation area.
 - The design should provide for all potential connections, including sidewalks to existing Town and foot bridges, where possible. There is currently a path connecting the Town with the northwest parcels.
 - Pedestrian walks should be provided connecting the exiting school.
 - Pedestrian walks should be provided connecting the Post Office.
 - Sidewalk should be provided at Coleman Street and Lowber Street, and at Johnnycake Landing Road. These sidewalks should be connected to northwest parcels.
 - Pedestrian connections should be provided to the commercial uses in the northwest parcels.
 - It is recommended that the Town look for unique opportunities that would create access-ways that would make more it efficient to walk and bike, and provide an alternative to just driving. An example includes providing sidewalks that radiate out from a commercial center in a more convenient and quicker then driving around.

Traffic:

- Many respondents to the 2003 public-opinion questionnaire indicated that there was too much traffic in the Town during the summer and that there was too much truck traffic. This can cause an increased need for street maintenance and result in a dangerous situation, as large trucks travel down narrow streets. In addition, heavy trucks traveling on streets may result in an increased need for maintenance to the Town's water mains and older buildings.
- *What is the need and feasibility of a bypass to re-route traffic around Town to reduce the stress put on local roads?* There is not a lot of opportunity with the kind of constraints (wetlands, rivers) for an east-west by-pass. The Town does not need a third north-south by-pass. The Traffic Impact Study will look at capacity and need to look at the collective whole of all developments. There was study done in Camden that looked at the volume and types of trucks through Town. There are "good" trucks, which provide for local services and goods, and "bad" trucks, which just pass through Town. The study revealed that the "bad" trucks were less than 1% of the truck traffic. The conclusion from the study was that 1% of through trucks does not support the need for a by-pass.
- Frederica has narrow streets. The roads cannot be widened due to the placement of sidewalks and existing housing. It is also not possible to take parking out due to limited parking availability.

- It is very difficult to get a truck by-pass due to limited funding and the ability to justify a legitimate need.
- As an alternative, the Town could look at reducing truck speed. Resurfacing of the road does tend to reduce vibrations. It also could be an enforcement issue. Increase enforcement to reduce truck speeds.
- The Town should market what they already have that is unique, instead of developing like “any other town”. Many other towns have a bypass. A good example is old-Georgetown- the streets are narrow like a path and are unique. Frederica has the ability to be unique and should comfortable with what they have.
- The Town does not really have a lot of truck traffic. The majority may be local delivery trucks, and not really tractor trailer thru traffic. In this case, there may not be a need for an east-west bypass.
- The Town could look into traffic calming methods in Town, and opportunities to make more pedestrian safe and friendly. Examples of this could be to beautify streetscape, using such materials as cobblestone pavers and stamped concrete.
- There is concern that the Town does not have a role in streetscape improvements since the majority of roads in question are state owned and maintained streets.
- When projects move forward, the Town will collect impact fees, transfer taxes, and “voluntary” community impact fees.
- Shorter blocks, and new urbanist style street typically discourages high speed traffic.
- There are twenty-three (23) developments in the Frederica region. DelDOT is coordinating a Transportation Improvement District that will study the cumulative impacts and necessary improvements that may be necessary such as intersections, widening, etc. The negotiation phase with the developers will follow the study.

Public Transportation:

- There is one Dart First State bus stop in Town. Bus Route 301 stops at variety store; however, the time may not be early enough to get people to work.
- The demand for increased bus service will increase with development. Low income also has an impact on the demand for bus services.
- Sheltered bus stops should be designed in with the commercial element of the new development. This may require the need for additional right-of-ways or easements to make possible for buses to enter and pick-up safely. This should be done at the site plan stage.
- Is Bus Route 303 possible to connect to Frederica – Magnolia?
- Route 12 could be an appropriate location to design in a bus stop location for DART.

- The Town should coordinate with a representative from the Delaware Transit Corporation to discuss a schedule to get people to work by 8:00 am.
- Carpool (Park-n-Ride) lots are available, but are not used prevalently.
- Demand has to do with density. Frederica may not be there yet, but with growth, DART will adjust with demand trends. DART planners are interested in talking with towns regarding where riders are coming from and to, who needs to ride, where the problems are, and where locations that need the services are.
- Think 2117- Travel needs will be different versus today. You cannot force people to get out of their cars, but you can provide them the opportunity.

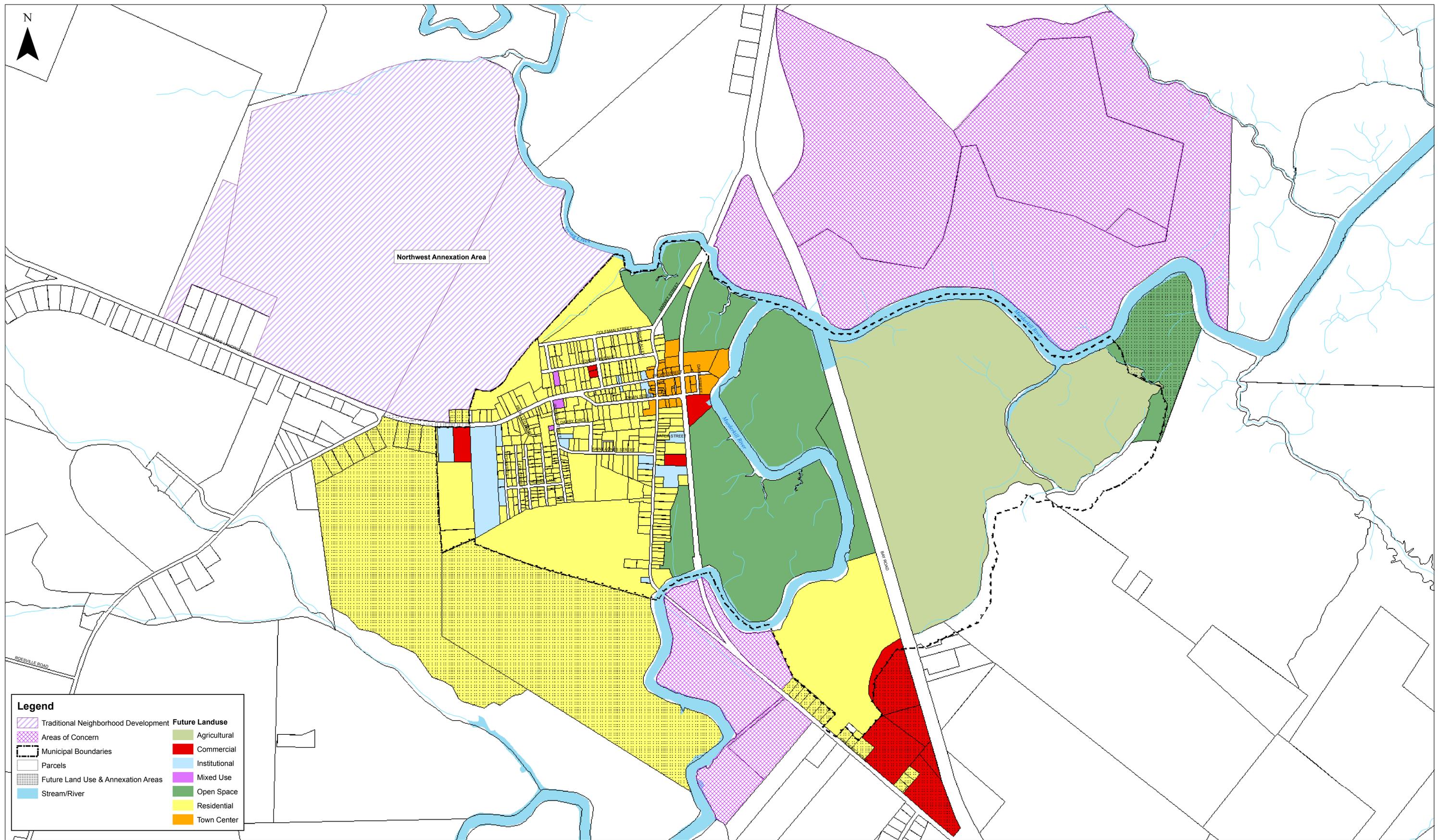
Street Maintenance:

- The 2003 public process indicated some dissatisfaction with the way that streets are maintained in Town.
- It was questioned what role the Town has in a regional master plan in regards to offset negative impacts of traffic to the Town resulting from the 23 developments. Regarding State roads in Town limits, to what extent is the Town involved in the final recommendation? The Town can give input to place the recommendations from the TIS into the context of the Town. If there is anything really important, then DelDOT could add the items in the study scope. Further, the Town can request DelDOT to look at a special case. The special case here is located at Frederica Road and Route 1. There have been multiple accidents and deaths (assumed 5 deaths in 14 months), which appear to be getting more frequent. Getting out of Frederica on to Route 1 is major safety hazard. A solution is necessary now. Traffic gets 'bunched up' Route 1. Making a left from northbound Route 1 across southbound is difficult due to the speed and spread of cars; especially on Fridays. Possible solutions may be improvements associated with the new developments including a traffic light, flashing red lights, or light up the area up to increase the a "see and be seen" concept. Travelers going across Route 1 need a better perspective and line of vision. This intersection needs be study as part of TIS. The Town has raised these concerns to DelDOT in the past, however little has been to done to investigate the problem. If improvements are not made, then accidents will continue and this problem may discourage prospective buyers of new homes in the area.
- In addition, the State has a Highway Safety Improvement Program that ranks problem intersections in State and make recommendations for safety improvements. It is noted that limited resources are available. It is further noted that the build-out may be only 20-30 houses by 2009, which is when the ramp access is anticipated to be complete.
- The Town needs to make the best of what it currently has. The traffic situation currently is not that bad, or as bad as it could be.

APPENDIX A. MAPS

Map 1 – Proposed Land Use & Annexations (Amended Map 7)

Map 2 – Current Development Activity



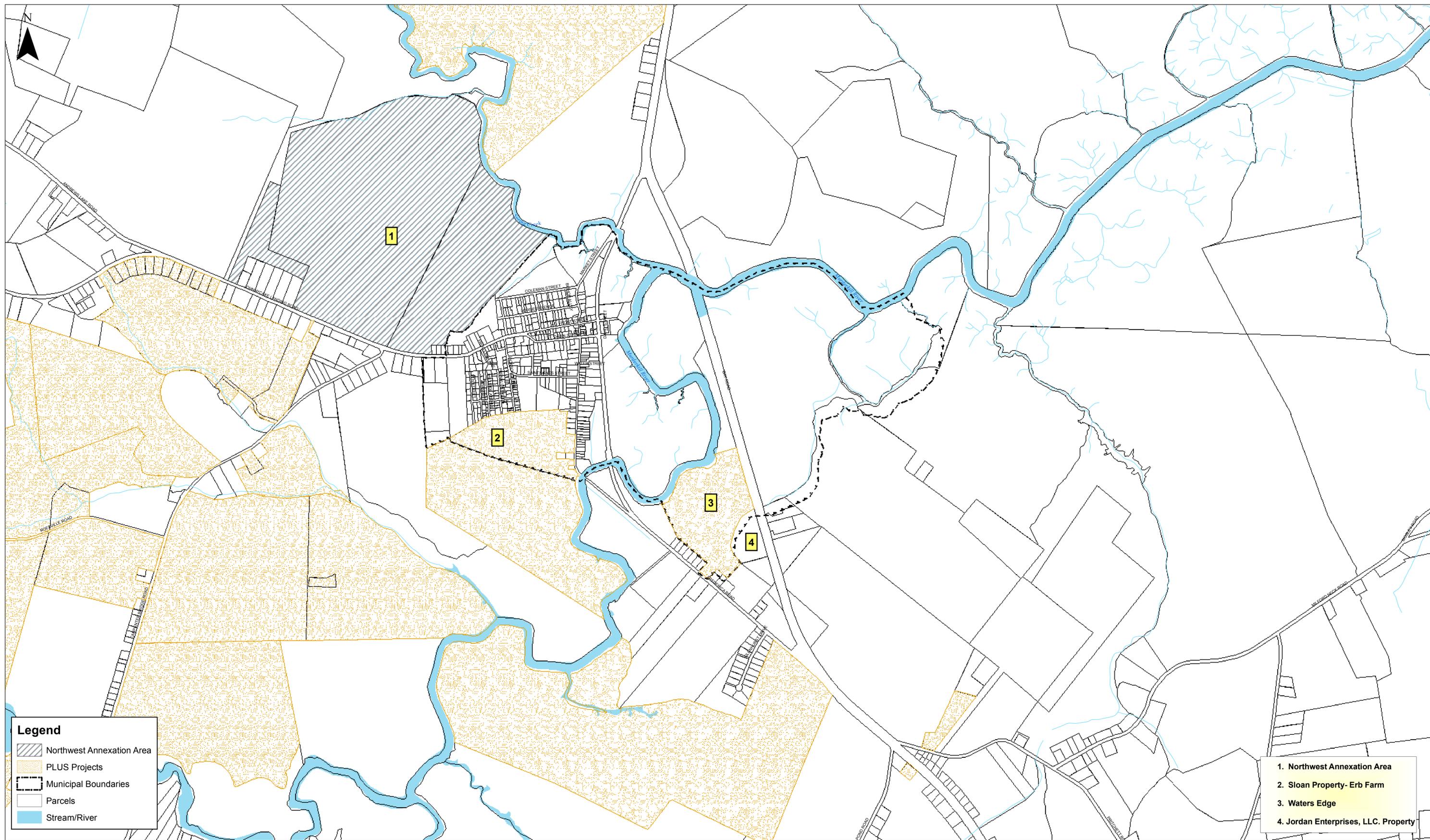
Legend

Traditional Neighborhood Development	Agricultural
Areas of Concern	Commercial
Municipal Boundaries	Institutional
Parcels	Mixed Use
Future Land Use & Annexation Areas	Open Space
Stream/River	Residential
	Town Center

Data Sources:
 Parcels - DE DataMI Feature Service, May 2006
 Roads - DHDOT centerline file
 Hydrology - USGS 7.5 Minute Series Topographic Maps, 1991-1993
 Future Landuse - Compiled by the UD Institute for Public Administration and the Town of Frederica, 2003

November 8, 2006
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**Map 1 - Proposed Land Use and Annexations (Amended Map 7)
 Town of Frederica**



Legend

-  Northwest Annexation Area
-  PLUS Projects
-  Municipal Boundaries
-  Parcels
-  Stream/River

- 1. Northwest Annexation Area
- 2. Sloan Property - Erb Farm
- 3. Waters Edge
- 4. Jordan Enterprises, LLC. Property

Data Sources:
 Parcels - DE Datum Feature Service, May 2006
 Roads - DelDOT centerline file
 Hydrology - USGS 7.5 Minute Series Topographic Maps, 1981-1993
 Future Landuse - Compiled by the UD Institute for Public Administration and the Town of Frederica, 2003

**Map 2 - Current Development Activity
 Town of Frederica**

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URS
 1200 Philadelphia Pike
 Wilmington, DE 19809
 Tel: 302.791.0700
 Fax: 302.791.0708