III. Area Description

This section is a description of conditions/factors in the Focus area.

A. Environmental

Soils, Slope and Topography

Several different soil types are found within the Focus area but the predominant types are Georgeville Silt Loamand Appling Sandy Loam. Georgeville and Appling soils are considered to be suitable soils for urban uses but may need septic field modifications due to their "moderate" permeability characteristics. Other soil types also found in the Focus area include Wilkes Gravelly Loam, Enon Loam, Herndon Silt Loam, Chewacla Loam, Tatum Silt Loam, Helena Sandy Loam, and Lignum Silt Loam. The following table depicts each soil type's suitability for urban uses:

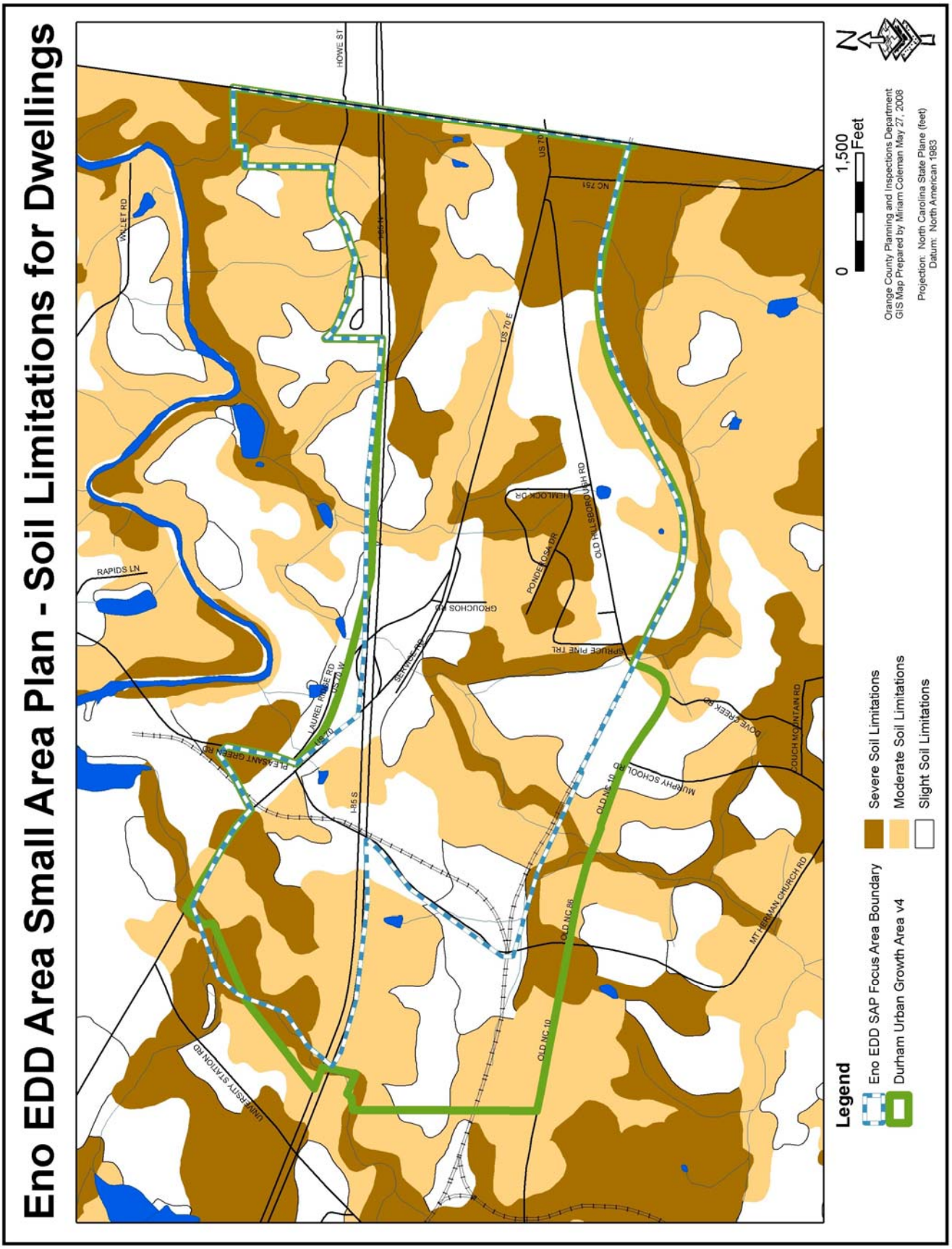
Soil Type	Suitability for Urban Uses
Appling Sandy Loam	High
Chewacla Loam	Low (found adjacent to streams and wetlands)
Enon Loam	Low (high shrink-swell potential)
Georgeville Silt Loam	High
Helena Sandy Loam	Low (high shrink-swell potential)
Herndon Silt Loam	High
Lignum Silt Loam	Low (slow permeability and wetness)
Tatum Silt Loam	Medium
Wilkes Gravelly Loam	Low (found on steep slopes)

Note: Soil types in bold print are the predominant soils in the Focus Area.

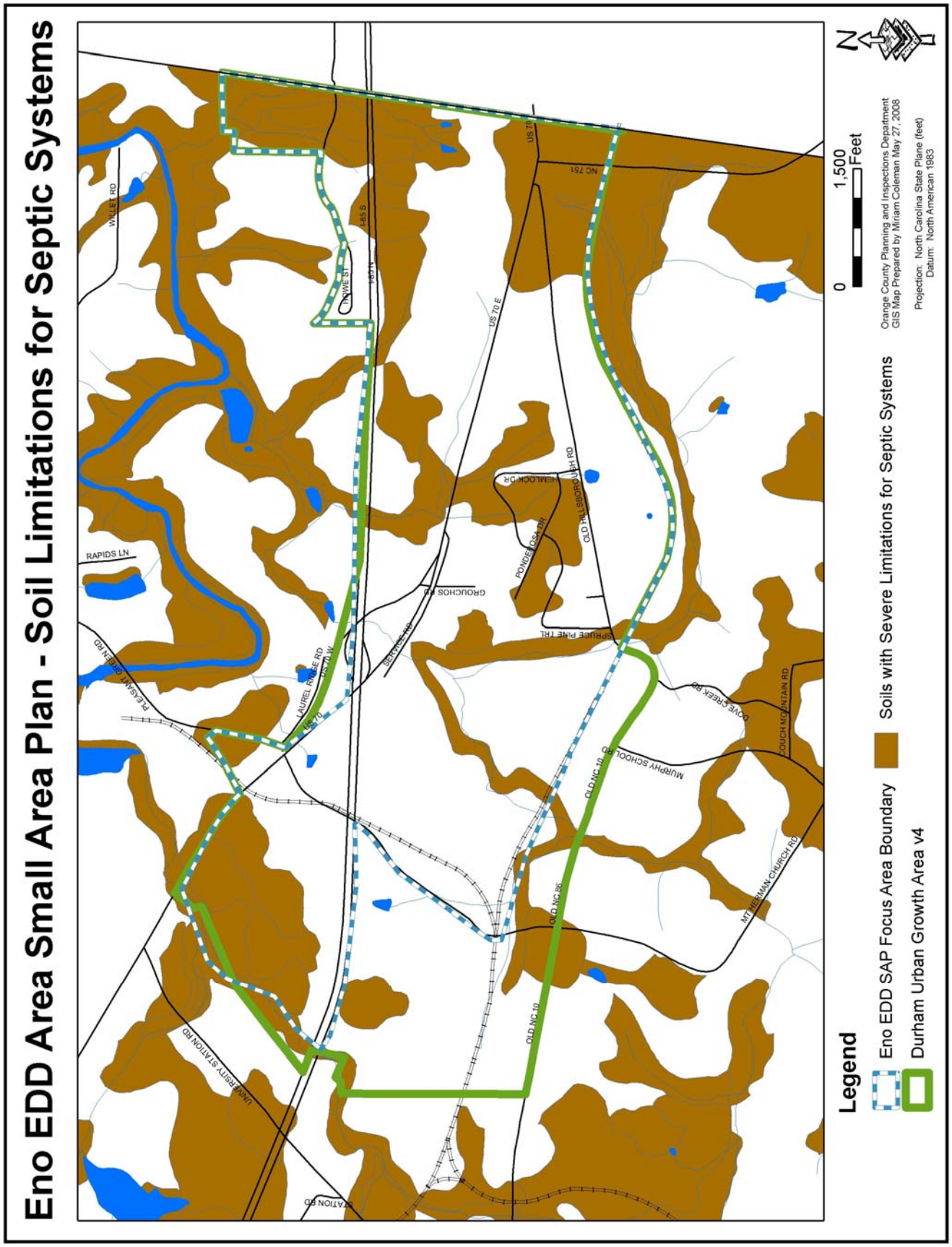
Maps 4 and 5 depict the Soil Limitations for Dwellings and Septic Systems, respectively, in the Focus area. (Note: The data used to produce the maps is from a USDA Soil Survey. Site-specific soil testing is necessary to confirm limitations). As Map 4 shows, severe soil limitations for dwellings (structures) are found in portions of the Focus area. Moderate soil limitations for dwellings (structures) are found in additional portions of the Focus area. In the Focus area, soil types can pose a challenge for locating structures and may increase construction costs since foundations that will support a structure on poor soils are generally more costly to design and construct.

Soil types that pose a challenge for buildings also tend to have poor characteristics for locating functional septic systems. As Map 5 shows, portions of the Focus area contain soil types that pose severe limitations for septic systems. Indeed, in Whispering Pines Subdivision approximately 40% of the lots remain undeveloped because of the inability to locate septic systems on the lots due to soil limitations (see Map 6). This limitation is not a factor in areas served by public sewer systems but it is a principal development consideration in areas where public sewer is not available.

Map 4


Eno EDD Area Small Area Plan - Soil Limitations for Dwellings
Legend
Eno EDD SAP Focus Area Boundary
Durham Urban Growth Area v4
Severe Soil Limitations
Moderate Soil Limitations
Slight Soil Limitations
0
1,500
Feet
N
Orange County Planning and Inspections Department
GIS Map Prepared by Miriam Coleman May 27, 2006
Projection: North Carolina State Plane (feet)
Datum: North American 1983
HOWE ST
WILLET RD
RAPIDS LN
US 70 E
NC 751
OLD HILLSBOROUGH RD
HEMLOCK CR
PONDEROSA DR
GROUCHOS RD
SPRUCE PINE TRL
SEVENNE RD
LAUREL RIDGE RD
US 70 W
PLEASANT GREEN RD
US 70
I-85 S
DOVE CREEK RD
COUCH MOUNTAIN RD
MURPHY SCHOOL RD
OLD NC 86
OLD NC 10
MT HERMAN CHURCH RD
UNIVERSITY STATION RD

Map 5

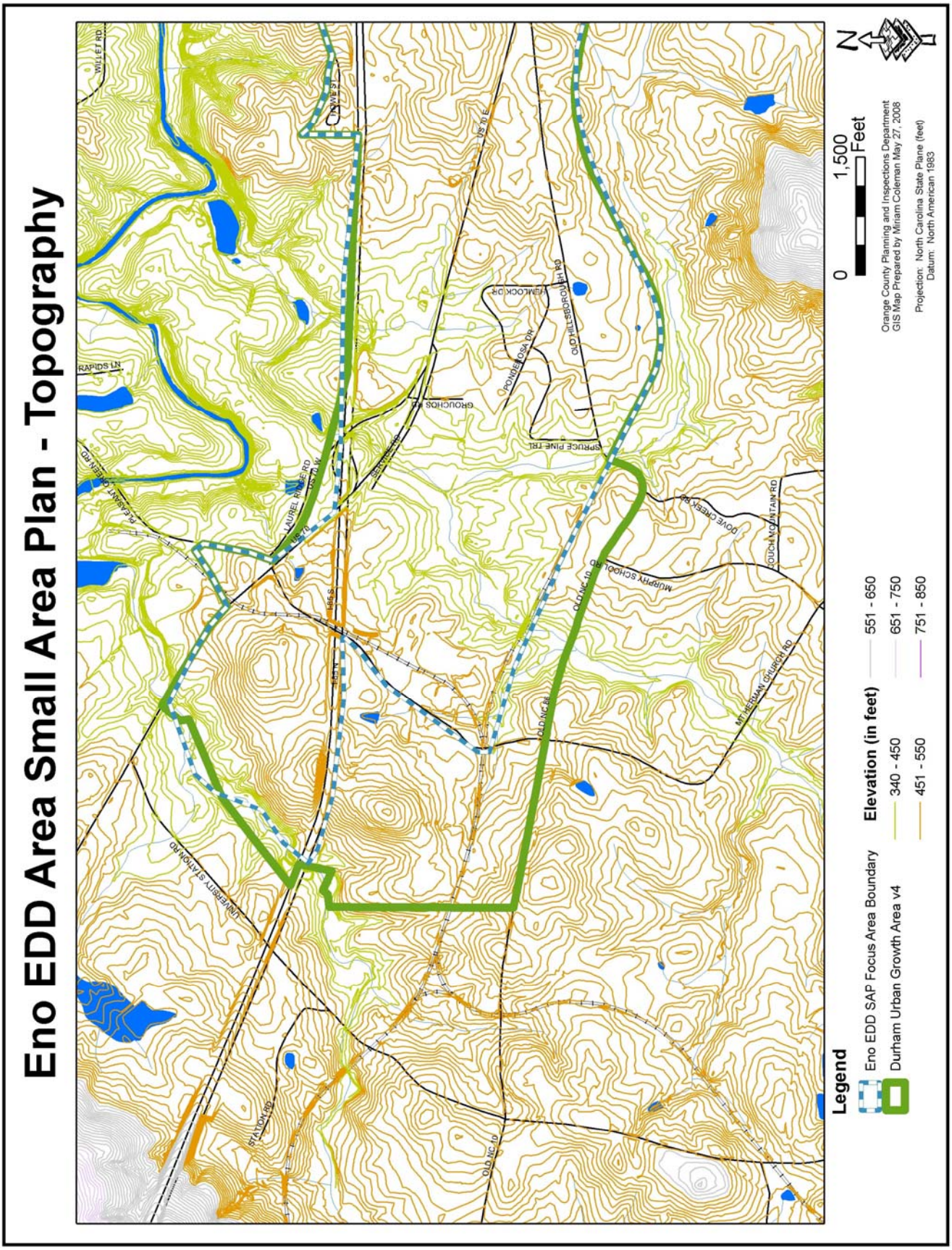

Eno EDD Area Small Area Plan - Soil Limitations for Septic Systems
Legend
Eno EDD SAP Focus Area Boundary
Durham Urban Growth Area v4
Soils with Severe Limitations for Septic Systems
0
1,500
Feet
N
Orange County Planning and Inspections Department
GIS Map Prepared by Miriam Coleman May 27, 2008
Projection: North Carolina State Plane (feet)
Datum: North American 1983
US 70 E
NC 751
OLD NC 10
OLD NC 86
MURPHY SCHOOL RD
MT HERMAN CHURCH RD
COUCH MOUNTAIN RD
COVE CREEK RD
LAUREL RIDGE RD
RAPIDS LN
PLEASANT GREEN RD
UNIVERSITY STATION RD
WILLEY RD
ONEWE ST
SPRUCE PINE TRL
OLD HILLSBOROUGH RD
HILLCOCK DR
PONDEROSA DR
GROUCHOS RD

Map 6


Whispering Pines Subdivision
HEMLOCK DR
PONDEROSA DR
OLD HILLSBOROUGH RD
WHISPERING PINES CIR
SPRUCE PINE TR
OLD NC 10
N
Orange County Planning and Inspections Department
GIS Map Prepared by Miriam Coleman, January 25, 2008
Projection: North Carolina State Plane (feet)
Datum: North American 1983
0
250
500
Feet

The Focus Area tends to have gradual changes in topography except in the northwest and northeast portions. Elevation within the Focus and Area ranges from 340 feet above sea level to 550 feet above sea level. Slopes are not particularly steep even in the vicinity of drainageways except in the previously noted portions.
Topography is an important factor in the location of gravity sewer lines where a goal is to minimize or even eliminate the number of necessary lift stations. Lift stations add substantially to the construction and on-going maintenance costs of the system. Map 7 depicts the Topography of the Focus area.

Map 7


Eno EDD Area Small Area Plan - Topography
Legend
Eno EDD SAP Focus Area Boundary
Durham Urban Growth Area v4
Elevation (in feet)
340 - 450
451 - 550
551 - 650
651 - 750
751 - 850
0
1,500
Feet
N
Orange County Planning and Inspections Department
GIS Map Prepared by Miriam Coleman May 27, 2008
Projection: North Carolina State Plane (feet)
Datum: North American 1983
RAPIDS LN
LAUREL RIDGE RD
US 70
I-85
OLD NC 10
OLD NC 10
OLD NC 10
STATION RD
UNIVERSITY STATION RD
MURPHY SCHOOL RD
MT HERMAN CHURCH RD
COUCH MOUNTAIN RD
DOVE CREEK RD
OLD HILLSBOROUGH RD
HEMLOCK DR
SPRUCE PINE TRL
GROUCHOS RD
PLEASANT GREEN RD
WILLEFI RD

Hydrology

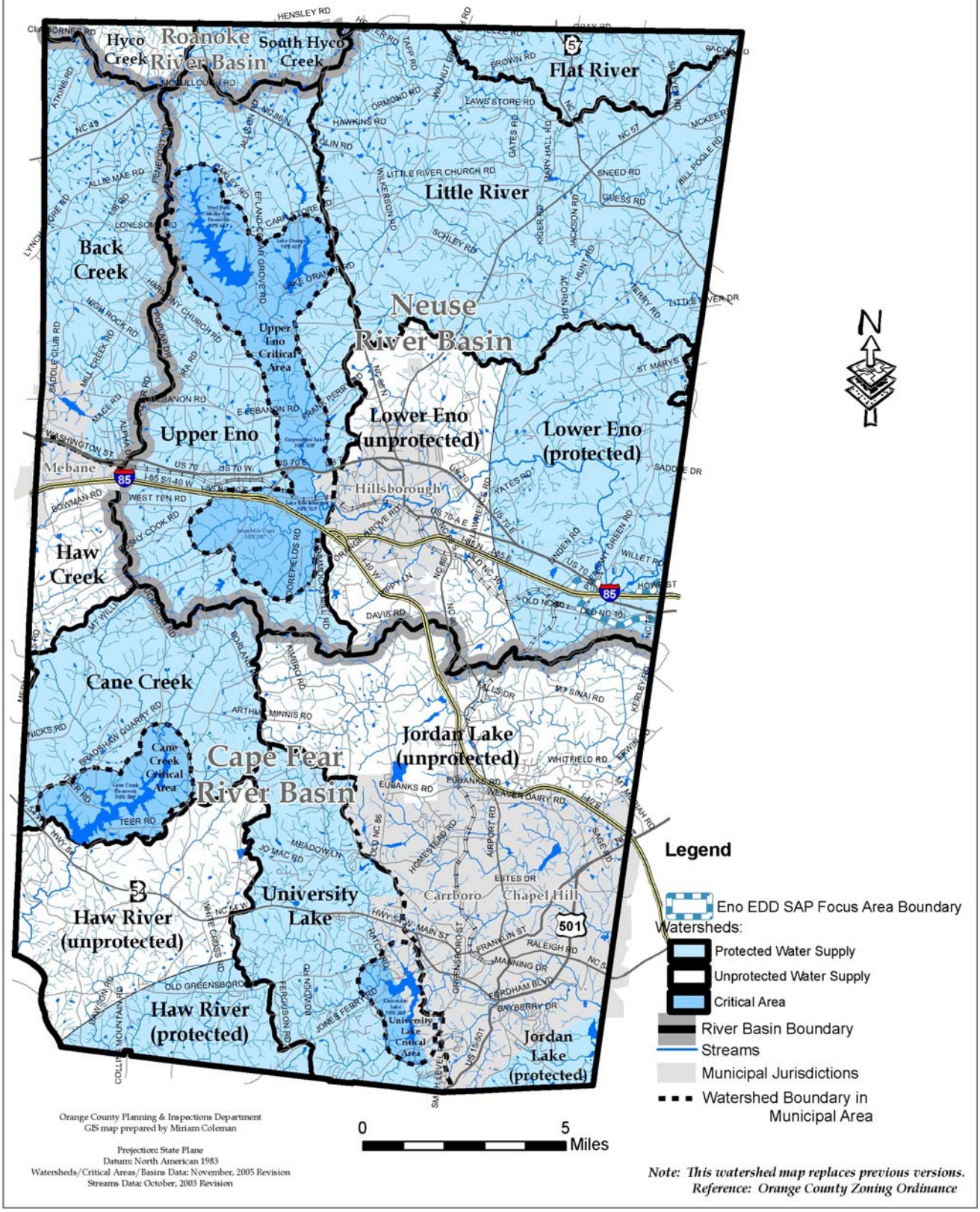
The Focus area is located entirely within the Lower Eno (protected) watershed (see Map 8).

The designation of protected vs. unprotected is related to State regulations associated with water-supply watersheds and measures implemented locally to protect water supply. Development within protected watersheds is subject to different restrictions than development in unprotected watersheds. The primary differences are in impervious surface limits, density restrictions, and septic system requirements.

The Lower Eno River is protected because the City of Durham has a water intake approximately 6 miles to the east. While the impoundment is not located within the planning area, this intake is a source of public drinking water for part of Durham.

Map 8

Eno EDD Area Small Area Plan - Watersheds



Orange County Planning & Inspections Department
GIS map prepared by Miriam Coleman

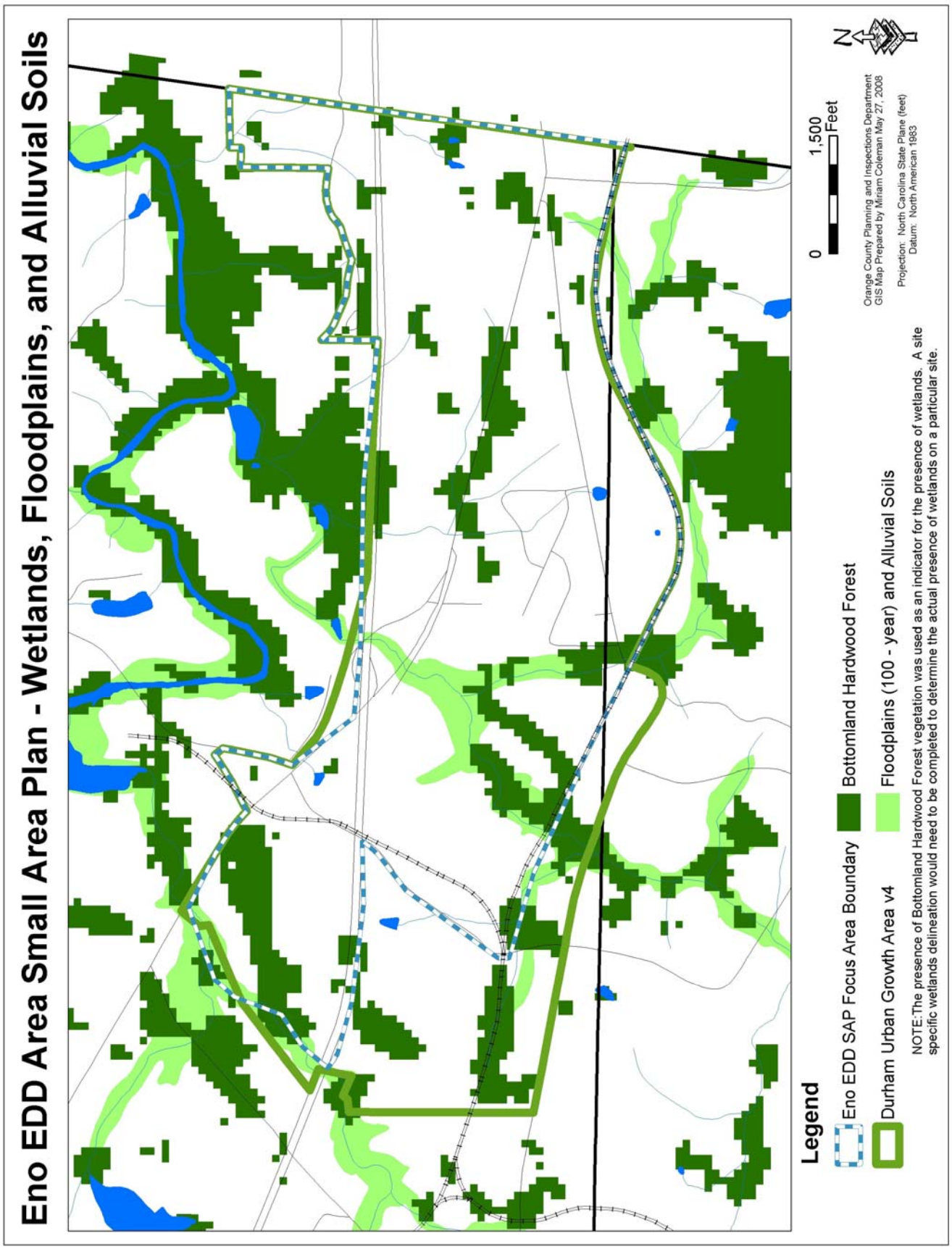
Projection: State Plane
Datum: North American 1983
Watersheds/Critical Areas/Basins Data: November, 2005 Revision
Streams Data: October, 2003 Revision

Note: This watershed map replaces previous versions.
Reference: Orange County Zoning Ordinance

Floodplains and alluvial soils are located within the Focus Area predominantly along Rhodes Creek. There are more significant expanses of potential wetlands immediately north of the Focus Area closer to the Eno River. Alluvial soils are soil types located along stream corridors which have resulted from repeated deposition by flood waters over many years. They indicate areas of past and potential future flooding and therefore are areas that should remain in their natural state. Development regulations in Orange County prohibit development within floodplains.

Potential Wetlands have also been identified throughout the Focus area by using the presence of Bottomland Hardwood Forest vegetation as an indicator for the presence of wetlands. Wetlands are generally unsuitable for development and normally require additional regulatory oversight and permitting by the U.S. Army Corps of Engineers. Map 9 depicts the location of Wetlands and Floodplains and Alluvial Soils within the Focus area.

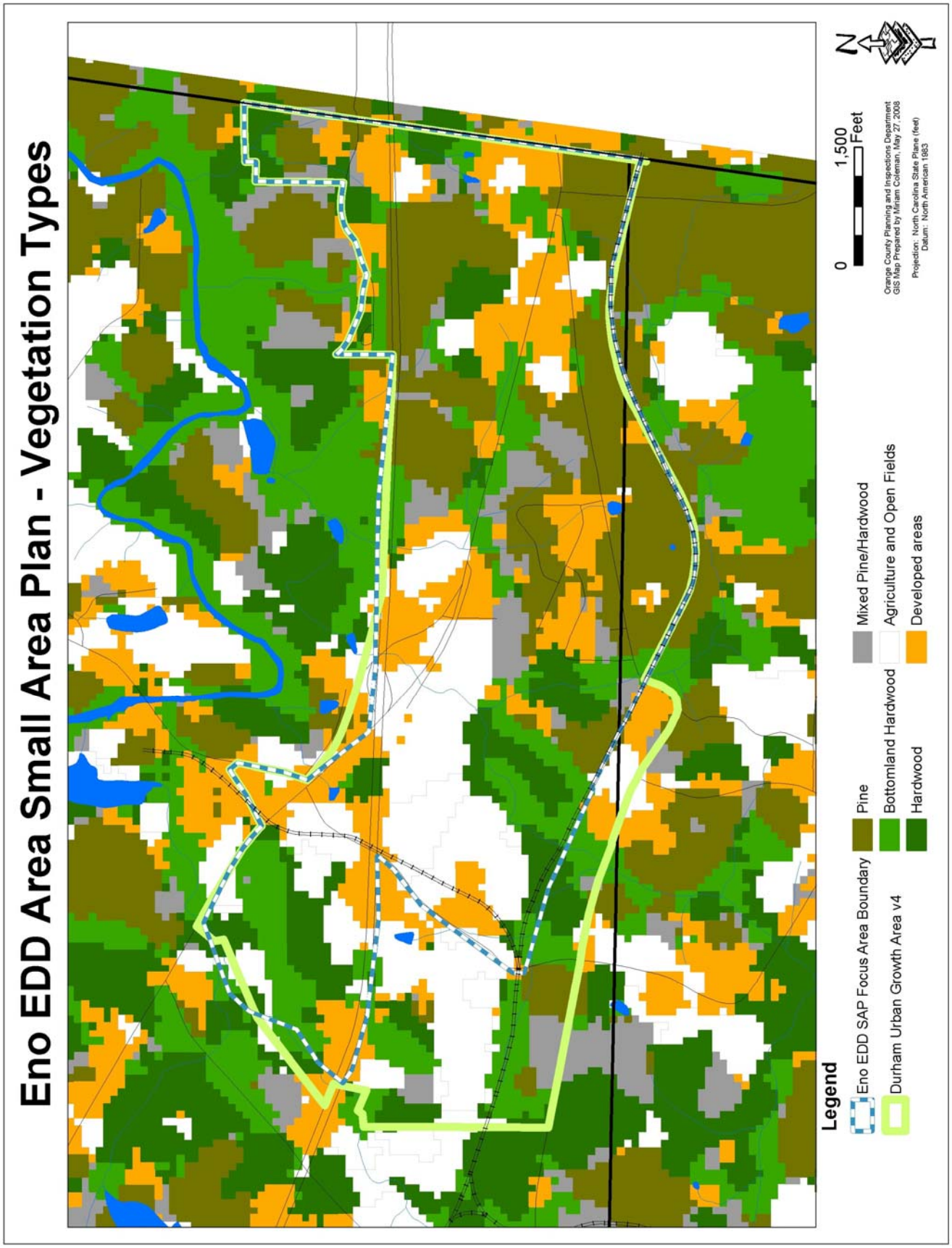
Map 9


Eno EDD Area Small Area Plan - Wetlands, Floodplains, and Alluvial Soils
Legend
Eno EDD SAP Focus Area Boundary
Durham Urban Growth Area v4
Bottomland Hardwood Forest
Floodplains (100 - year) and Alluvial Soils
NOTE:The presence of Bottomland Hardwood Forest vegetation was used as an indicator for the presence of wetlands. A site specific wetlands delineation would need to be completed to determine the actual presence of wetlands on a particular site.
0
1,500
Feet
N
Orange County Planning and Inspections Department
GIS Map Prepared by Miriam Coleman May 27, 2008
Projection: North Carolina State Plane (feet)
Datum: North American 1983

Vegetation

Natural vegetation cover in the Focus area has been subject to urban disturbance and agricultural uses but remaining undeveloped areas consist mostly of hardwood and pine forests. Bottomland Hardwood is also found adjacent to drainageways. Map 10 depicts the Vegetation types in the Focus area using generalized data. The Land Use Element of the Comprehensive Plan includes a significance rating for Natural Areas/Wildlife Habitats. No significant sites are located within the Focus area; however, one prime regionally significant site comprising 128.9 acres is located immediately north of the Focus Area, just north of Howe Street, within the Eno River corridor. Additionally, the Eno River, just north of the Focus area, is a significant wildlife corridor and significant aquatic habitat and contains many rare aquatic animal species, according to the North Carolina Wildlife Resources Commission, Wildlife Management Division.

Map 10


Eno EDD Area Small Area Plan - Vegetation Types
N
0
1,500
Feet
Orange County Planning and Inspections Department
GIS Map Prepared by Miriam Coleman, May 27, 2008
Projection: North Carolina State Plane (feet)
Datum: North American 1983
Legend
Eno EDD SAP Focus Area Boundary
Durham Urban Growth Area v4
Pine
Bottomland Hardwood
Hardwood
Mixed Pine/Hardwood
Agriculture and Open Fields
Developed areas