

III. Area Description

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

A. Environmental

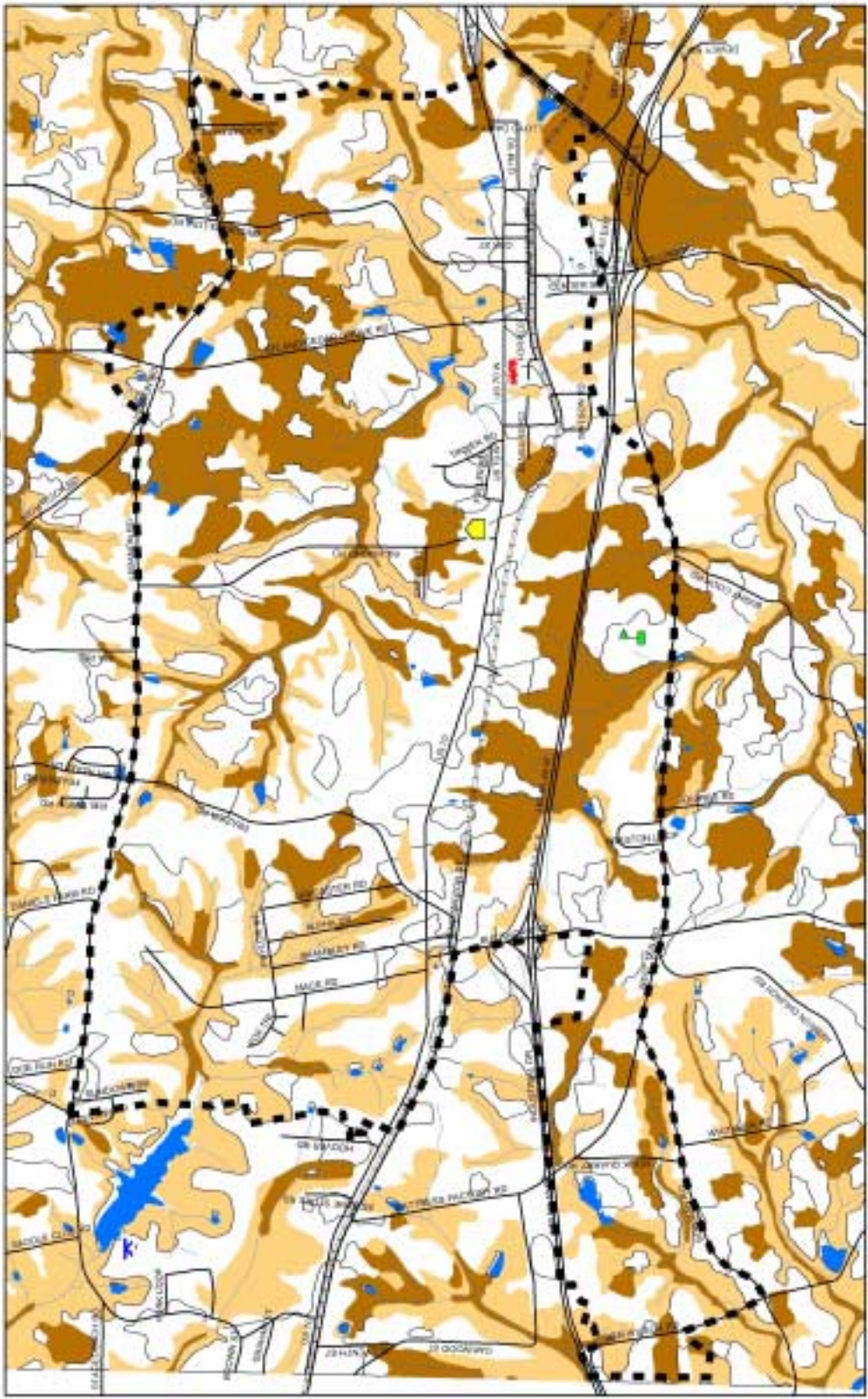
Soils, Slope and Topography

Several different soil types are found within the study area but the predominant types are Georgeville Silt Loam, Herndon Silt Loam, Appling Sandy Loam, and Enon Loam. Georgeville, Herndon, and Appling soils are considered to be suitable soils for urban uses but all three of these types may need septic field modifications due to their “moderate” permeability characteristics. Enon Loam is not considered a good soil for urban uses because of its slow permeability and high shrink-swell character.

Maps 2 and 3 depict the Soil Limitations for Dwellings and Septic Systems, respectively, in the planning 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 2 shows, severe soil limitations for dwellings (structures) are found in portions of the planning area, predominantly adjacent to and in the vicinity of water drainageways. Moderate soil limitations for dwellings (structures) are found in additional portions of the planning area. In the planning 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 3 shows, portions of the planning area contain soil types that pose severe limitations for septic systems. 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.

Soil Limitations - Dwellings



The data used to produce this map is from a USDA Soil Survey. Site-specific soil testing is necessary to confirm limitations.

Source: Orange County Comprehensive Plan – Land Use Element

Soil Limitations - Septic Systems



Legend

- Small Area Plan Boundary
- Soils with Severe Limitations
- Streams
- Fire Station
- Efland Cheeks Park and Community Center
- Gravelly Hill Middle School
- Lake Michael Park



Orange County Planning and Inspection Department
 GIS Map Prepared by Wilson Coleman March 10, 2008
 Projected: North Carolina State Plane (NAD83)
 Datum: North American 1983



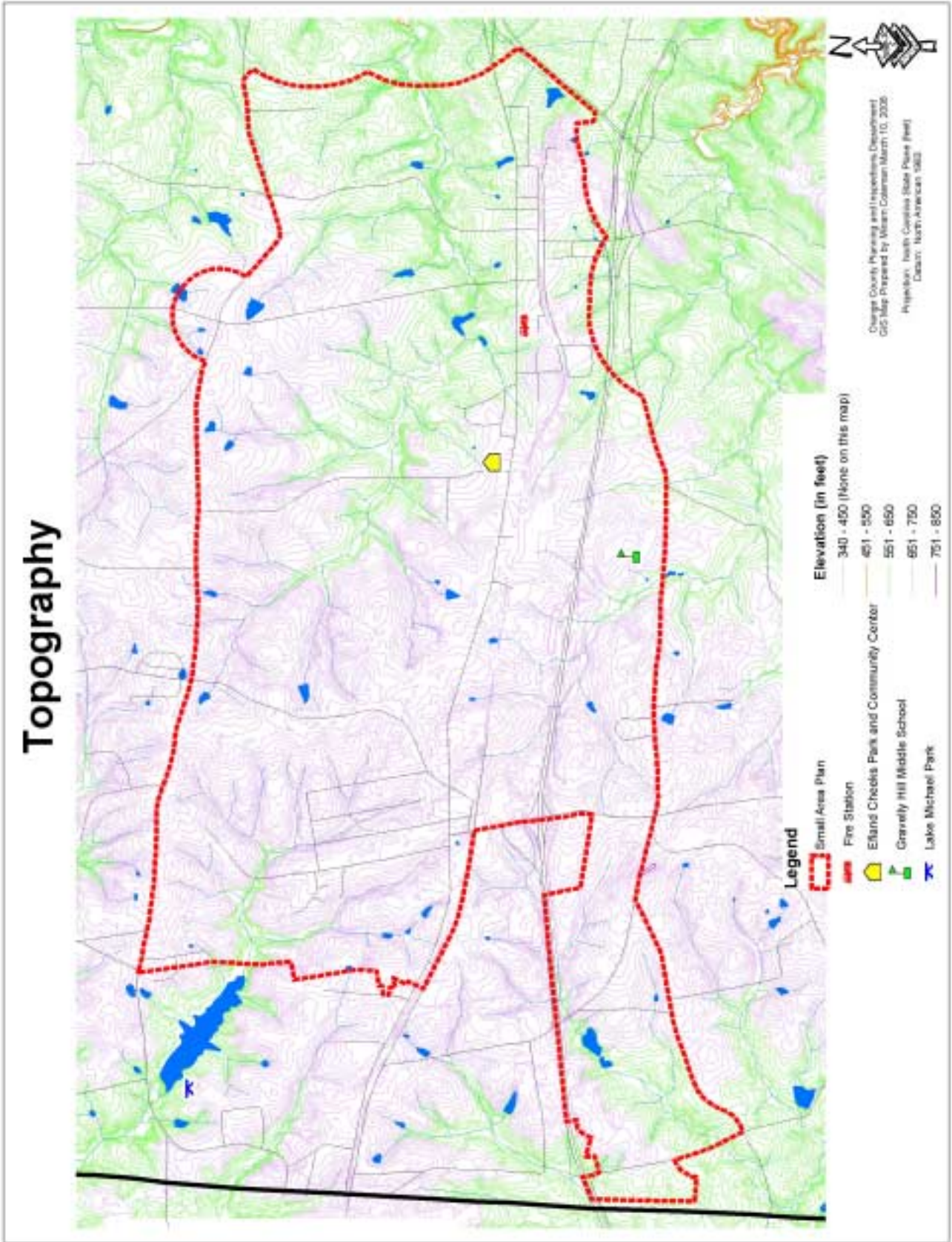
The data used to produce this map is from a USDA Soil Survey. Site-specific soil testing is necessary to confirm limitations.

Source: Orange County Comprehensive Plan – Land Use Element

The study area tends to have gradual changes in topography. Elevation within the planning area ranges from 551 feet above sea level to 750 feet above sea level. As is typically expected, steeper areas are found in the vicinity of water drainageways. However, in the planning area, even areas adjacent to most drainageways are not excessively steep. An exception is McGowan Creek in the eastern portion of the planning area where slopes are steeper.

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 4 depicts the Topography of the planning area.

Topography



Source: Orange County Planning Department, GIS Division, using USGS contour data

Hydrology

The planning area contains parts of three different watersheds:

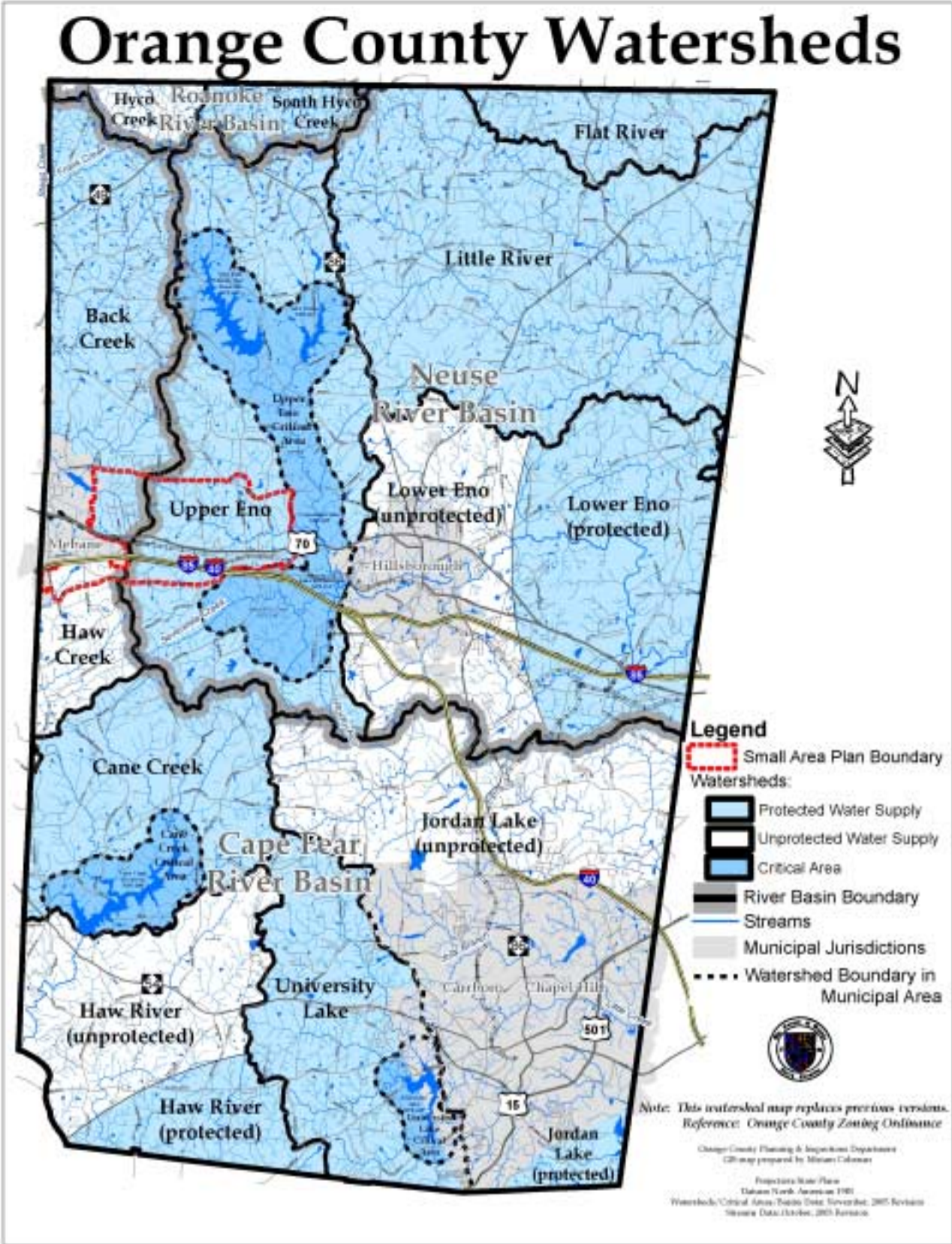
- Upper Eno (protected)
- Back Creek (protected)
- Haw Creek (unprotected)

The protected and unprotected designations are 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 Upper Eno River has four (4) drinking water supply impoundments: Corporation Lake, Lake Ben Johnson, Lake Orange, and West Fork on the Eno. While none of these four impoundments are located within the planning area, Corporation Lake is a source of public drinking water for the Orange-Alamance Water System (OAWS). OAWS provides drinking water to a significant portion of the Study Area.

Lake Michael is located in the Back Creek (protected) watershed and is situated immediately adjacent to the northwest boundary of the planning area within the City of Mebane's city limits. A portion of the planning area drains into Lake Michael. With the completion of Graham-Mebane Lake in Alamance County as the City's primary water supply, Lake Michael now serves only as a secondary back-up supply for the City of Mebane.

The area immediately to the south of the southeastern boundary of the planning area is designated as a watershed "critical area" primarily because Seven-Mile Creek was one of several options proposed in 1989 to be considered for an additional water supply impoundment for the Town of Hillsborough. More recent discussions have indicated that creating an impoundment on Seven-Mile Creek may no longer be planned. The status of creating a reservoir on Seven-Mile Creek affects the planning area because the Critical Watershed line, which creates the border of the planning area boundary in the southeast portion of the planning area, could be revised and moved further south if a reservoir is not located on Seven-Mile Creek. The critical watershed line was based upon the projected pool level of the proposed reservoir. Seven Mile Creek would remain a Protected watershed even if a reservoir is not constructed because the creek is a water supply watershed; however, the critical watershed line would be re-drawn from the creek limits, rather than from the pool level of a reservoir. Therefore, the critical area would be less if a reservoir were not constructed.

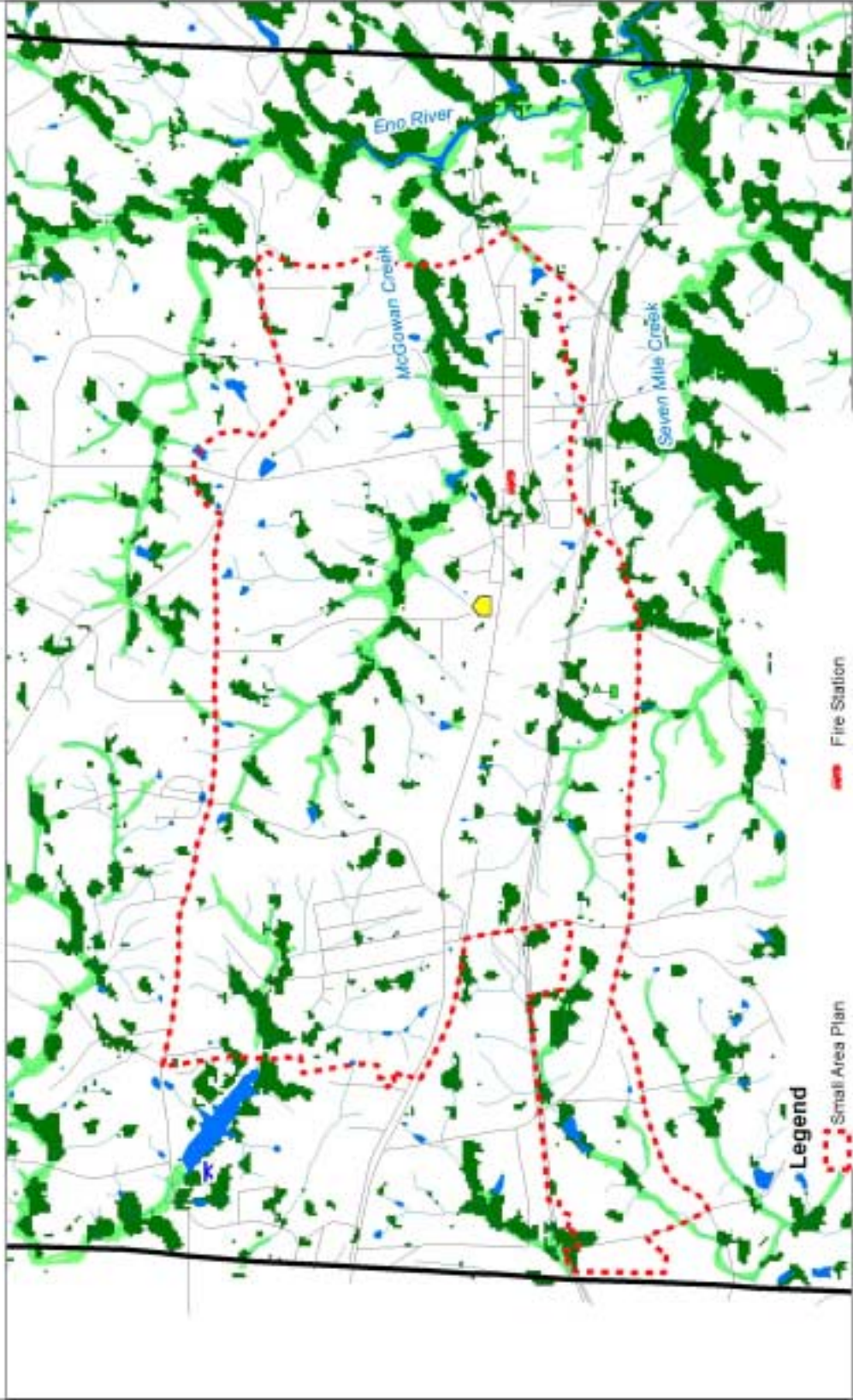


Source: Orange County Planning Department, GIS Division, using watershed planning data

Floodplains and alluvial soils are located within the planning area but their extent is not very significant and they are located predominantly along McGowan Creek. 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 planning 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 6 depicts the location of Wetlands and Floodplains and Alluvial Soils within the planning area.

Wetlands, Floodplains, and Alluvial Soils



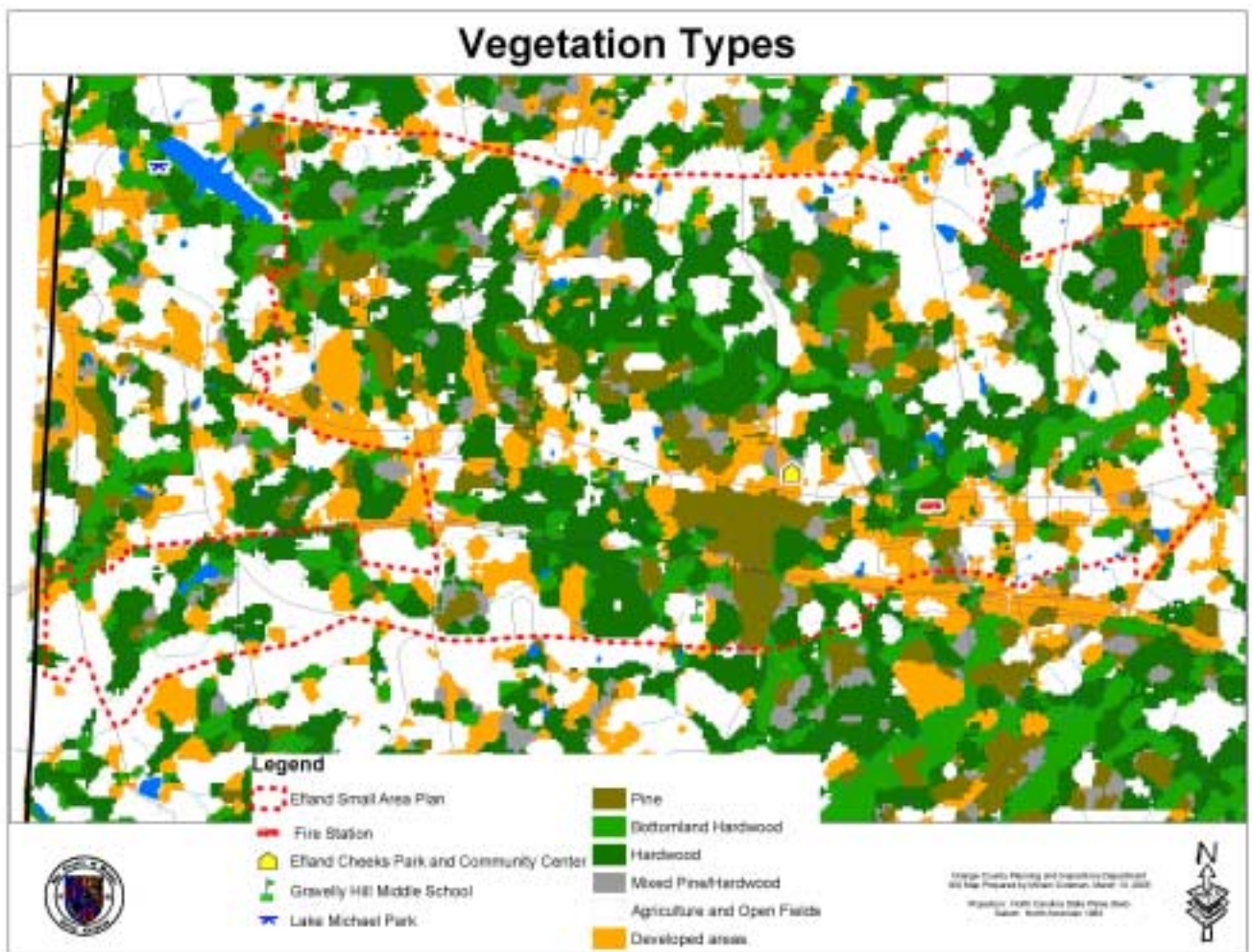
The data used to produce this map is from generalized sources. Site-specific delineation is necessary to confirm the presence of wetlands, floodplains, and alluvial soils.

Source: Orange County Comprehensive Plan – Land Use Element

Vegetation

Natural vegetation cover in the planning area consists mostly of hardwood and pine forests. Bottomland Hardwood is also found adjacent to drainageways. Map 7 depicts the Vegetation types in the planning 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 planning area; however, the Upper Eno River, just east of the planning 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 6 shows the location of the Eno River relative to the planning area).

Map 7



Source: Orange County Comprehensive Plan – Land Use Element