

ACIAL ICE-LAID DEPOSITS

- Thin Till
- Thick Till
- End Moraine deposits

ACIAL MARSHWATER DEPOSITS

are Deposits

- Fines (very fine sand, silt, and clay)
- Gravel
- Sand and Gravel
- Sand

acked Coarse Deposits

- Gravel overlying Sand and Gravel
- Gravel overlying Sand
- Sand and Gravel overlying Sand
- Sand and Gravel overlying Sand overlying Sand and Gravel
- Sand overlying Gravel
- Sand overlying Sand and Gravel






acked Coarse Deposits Overlying Fine Deposits

- Gravel overlying Sand overlying Fines

POSTGLACIAL DEPOSITS

- Floodplain Alluvium
- Alluvium overlying undifferentiated Coarse deposits (g, sg, s)
- Alluvium overlying Fines
- Alluvium overlying undifferentiated Coarse deposits overlying Fine deposits
- Alluvium overlying undifferentiated Fine deposits overlying Coarse deposits
- Swamp deposits
- Swamp deposits overlying Sand
- Swamp deposits overlying Fines
- Swamp deposits overlying Sand overlying Fines
- Swamp deposits overlying Fines overlying Sand
- Salt-Marsh and Tidal-Marsh deposits
- Salt-Marsh and Tidal-Marsh deposits overlying Sand
- Salt-Marsh and Tidal-Marsh deposits overlying Fines
- Talus
- Beach deposits
- Artificial Fill

* Alluvium may be overlying any of the Coarse deposits (g, sg, s)

	Sand and Gravel overlying Sand overlying Fines
	Sand and Gravel overlying Fines
	Sand overlying Fines
	Fines overlying Sand and Gravel
	Fines overlying Sand

Sorted Fine Deposits Overlying Coarse Deposits

PARTICLE DIAMETER												
10	2.5	.16	.08	.04	.02	.01	.005	.0025	.0015	in		
256	64	4	2	1	.5	.25	.125	.063	.031	mm		
Boulders	Colloids	Pebbles	Granules	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay		
GRAVEL PARTICLES				SAND PARTICLES				FINE PARTICLES				

Grain-size classification (modified from Wentworth, 1922)

Unconsolidated glacial and postglacial deposits, that range from a few feet to several hundred feet in thickness, overlie the bedrock surface of Connecticut (see Block Diagram). This map portrays the distribution of these deposits. The legend is designed to highlight the relationship between the depositional origins and the composition and character of the materials portrayed. Most of the Connecticut glacial and postglacial deposits can be divided into two broad depositional categories: Glacial Ice-Land deposits (tills and moraine) which are generally deposited on the land surface by glacial meltwater, and Glacial Water-Land deposits (stratified deposits) which are most commonly concentrated in valleys and lowlands. A mapping emphasis is placed on stratified meltwater deposits, which are the most important and variable, and historically influenced development patterns throughout the state.

For a complete description of surficial materials map units, and further information concerning their thickness and modes of occurrence, please refer to the published Surficial Materials Map of Connecticut and the companion Quaternary Geologic Map of Connecticut and Long Island Sound Basin (see Data Sources).

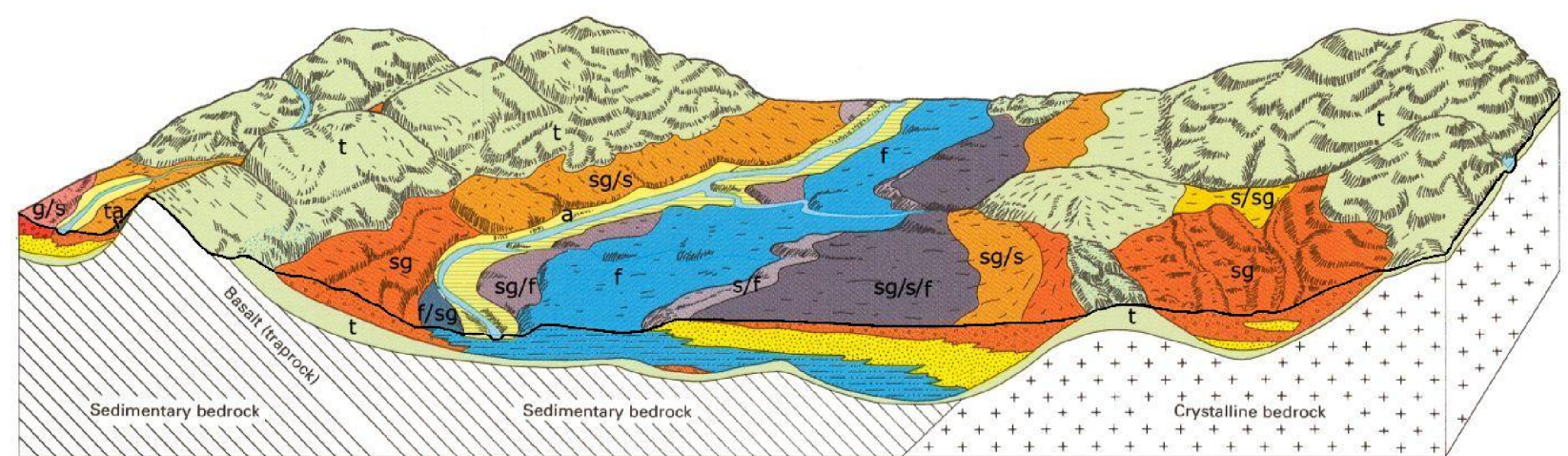
Glacial Ice-laid deposits (tills and moraine) were derived directly from the ice and consist of nonsorted, generally nonstratified mixtures of grain-sizes ranging from clay to large boulders. The matrix of most tills is predominantly sand and silt and boulders can be sparse to abundant. Some tills contain lenses of sorted sand and gravel and occasionally masses of laminated fine-grained sediment. The lack of sorting and stratification typical of ice-laid deposits often makes them poorly drained, difficult to dig in, and places a medium-sized boulder under and uninsured for septic systems. Till blankets the bedrock surface in variable thicknesses and commonly underlies stratified meltwater deposits (see Block Diagram). End moraine deposits (primarily albion till) occur principally in southeastern Connecticut.

Glacial Meltwater deposits (stratified deposits) were laid down in glacial streams, lakes and ponds which occupied the valleys and lowlands of Connecticut as the last ice sheet melted away to the north. They are often composed of layers of well-to-poorly sorted sands, gravels, silts and clays with few to no boulders, and owing to their water-related depositional origins they have many

characteristics that are favorable for development. Because water is a better sorting agent than ice, glacial meltwater deposits are commonly better sorted, more permeable, and better aquifers than ice-laid deposits. They can be good sources of construction aggregate, and are relatively easy to excavate and build highways and buildings on.

Melwater deposits are depicted using four basic texturally-based map units: gravel, sand and gravel, sand, and fines. To the extent that it is known or can be inferred, the subsurface texture and thickness of these units is indicated by the use of different line thickness. In many places similar conditions persisted for the entire time that a melwater deposit was being laid down, and a single map unit (e.g. s-sand) is sufficient to describe the entire melwater sequence. Areal and vertical texture/variability can occur within the melwater sequence, and this is indicated by the use of different line patterns. Sediment varies with each melwater setting (stream, delta, lake, etc.), and settings can change over time. High-energy depositional environments near glacial margins (proximal) tend to favor coarser textures, whereas low-energy depositional environments near glacial margins make back, less energy is available and finer grained silt and clay tend to become predominant. Where more complex stratigraphic relationships existed because of changing conditions during deposition, "stacked" map units are used to characterize the melwater sequence. The use of the letters "a" and "b" in the map units (e.g. a-s-s) where postglacial deposits overlie melwater deposits, this relationship is also shown (e.g. a/s - alluvium overlying sand).

Postglacial Sediments (primarily floodplain alluvium and swamp deposits) are less widely distributed and are typically thinner than the glacial deposits that they overlie, but they are locally important ecological, agricultural, commercial, and recreational resources. Talus, a result of rockfall at the base of steep bedrock (primarily trap rock) cliffs, provides a cool damp ecological niche. Beach, marsh and swamp deposits are key ecological elements of coastal and poorly drained inland settings. Deposits of floodplain alluvium are largely composed of sands, gravels and silts that have been reworked from glacial deposits and mixed with organic matter which increases their fertility. Despite their flood-prone nature, low, flat, fertile floodplains have historically been attractive for agricultural uses and development related to water-dependent commerce.



SURFICIAL MATERIALS DATA – Surficial Materials shown on this map are from the Surficial Material Poly dataset which contains polygon data intended to be used at 1:24,000 scale. Based on the Connecticut State Soil Survey data compiled in 1995 by the Connecticut Department of Environmental Protection, in cooperation with the U.S. Geological Survey. These data were digitized from the 1:24,000-scale compilation sheets prepared for the Connecticut State Soil Survey by the U.S. Geological Survey, J.P. Schafer, J.P., London, E.H. and Thompson, W.B., 1992, U.S. Geological Survey special map, 2 sheets, scale 1:125,000.

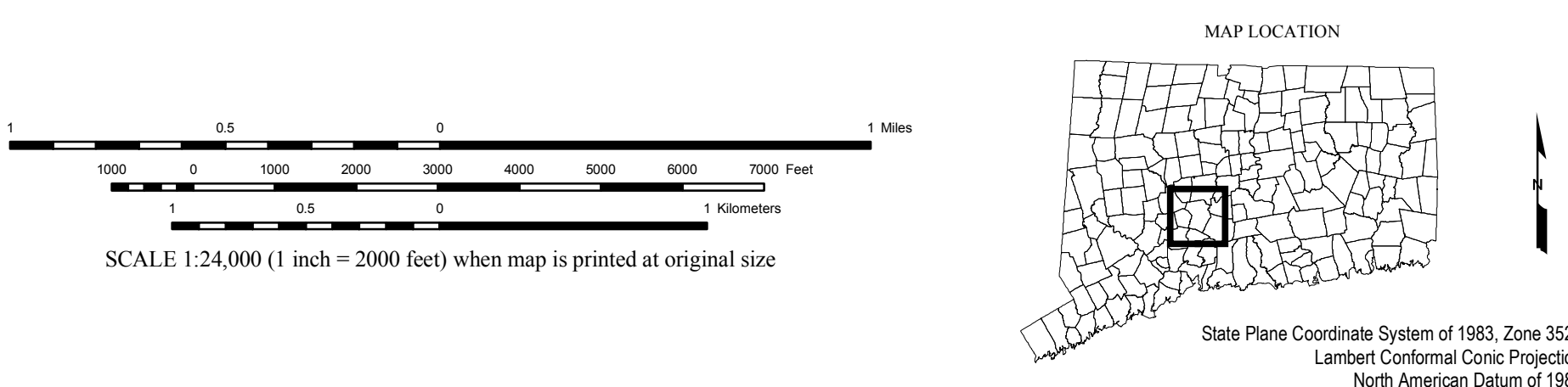
BASE MAP DATA - Based on data originally from 1:24,000-scale USGS 7.5 minute topographic quadrangle maps published between 1969 and 1992. It includes political boundaries, railroads, airports, hydrography, geographic names and geographic places. Streets and street names are from Tele Atlas® copyrighted data. Base map information is neither current nor complete.

RELATED INFORMATION
This map is intended to be printed at its original dimensions in order to maintain the 1:24,000 scale (1 inch = 2000 feet).

QUATERNARY GEOLOGY AND SURFICIAL MATERIALS. DATA - 1:24,000-scale digital spatial data of Connecticut Quaternary Geology and Surficial Materials combined into one dataset, published by the Connecticut Department of Environmental Protection, in cooperation with the U.S. Geological Survey. These data were digitized from the 1:24,000-scale compilation sheets prepared for both the Surficial Materials Map of Connecticut, Stone and others, 1992, 1:125,000 and the Quaternary Geologic Map of Connecticut and Long Island Sound Basin, Stone and others, 2005, 1:125,000.

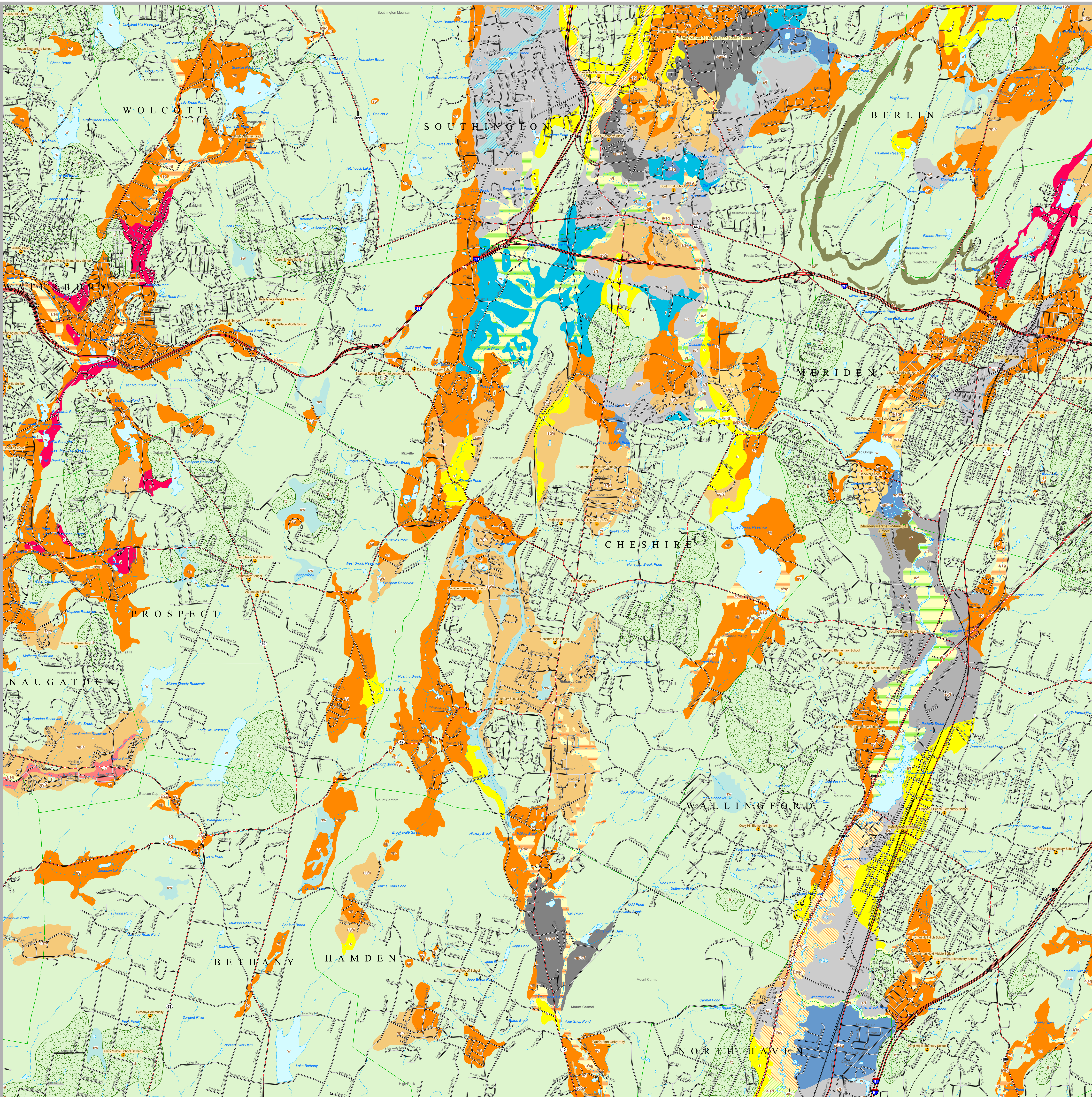
OTHER GEOLOGIC MAPS - This map is also available for individual USGS topographic quadrangles of Connecticut. Other bedrock, surficial, and quaternary (glacial) geology quadrangle maps and reports published by the Connecticut Geological and Natural History Survey, USGS, and others are also available from CT DEP.

MAPS AND DIGITAL DATA - Go to the CT ECO website for this map and a variety of others. Go to the CT DEP website for the digital spatial data shown on this map.



STATE OF CONNECTICUT
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79 Elm Street
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