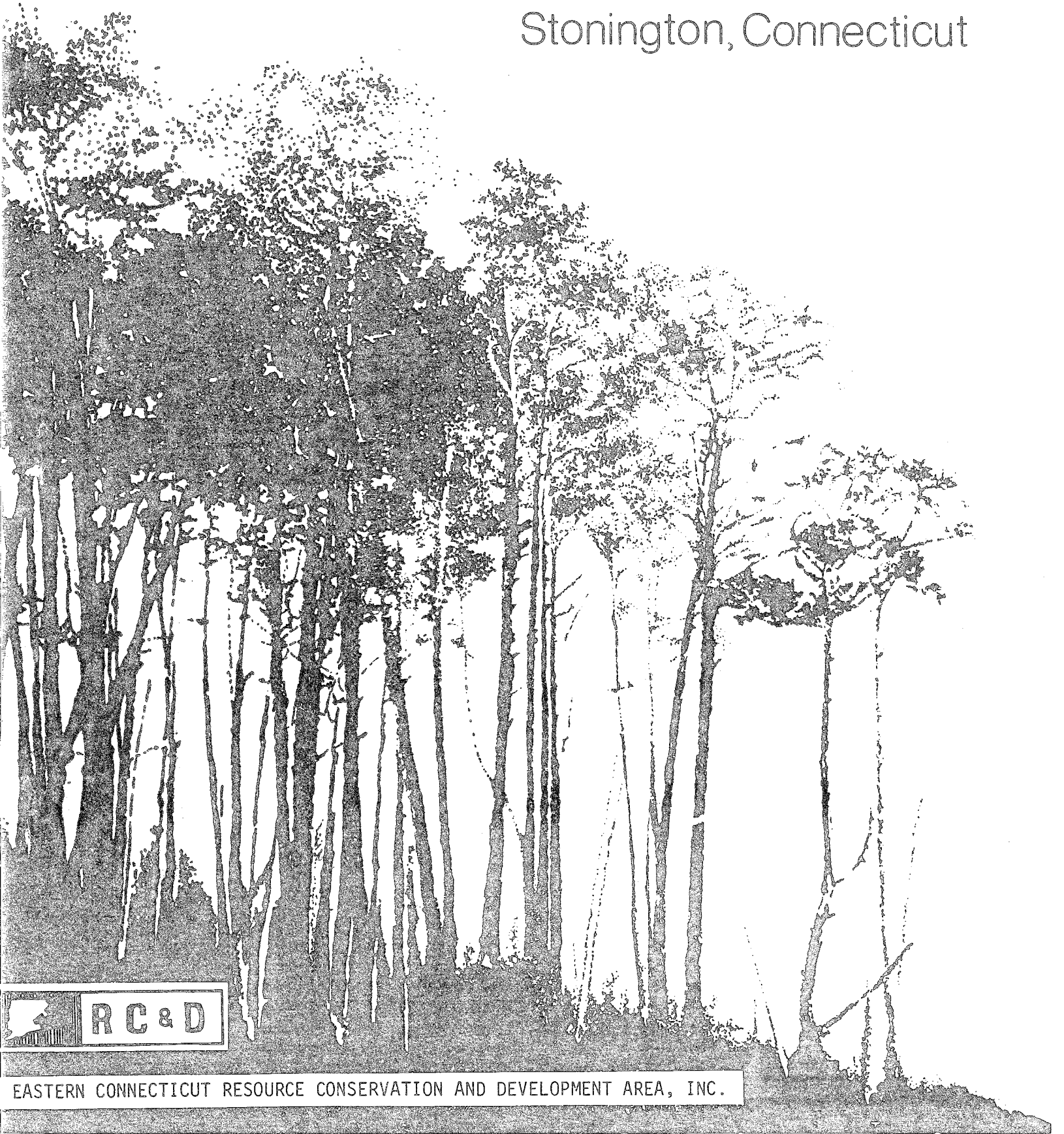


Environmental Review Team Report
D'Amico Property
Stonington, Connecticut

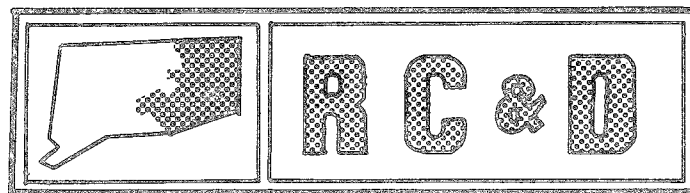


EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team
Report
on

D'Amico Property
Stonington, Connecticut

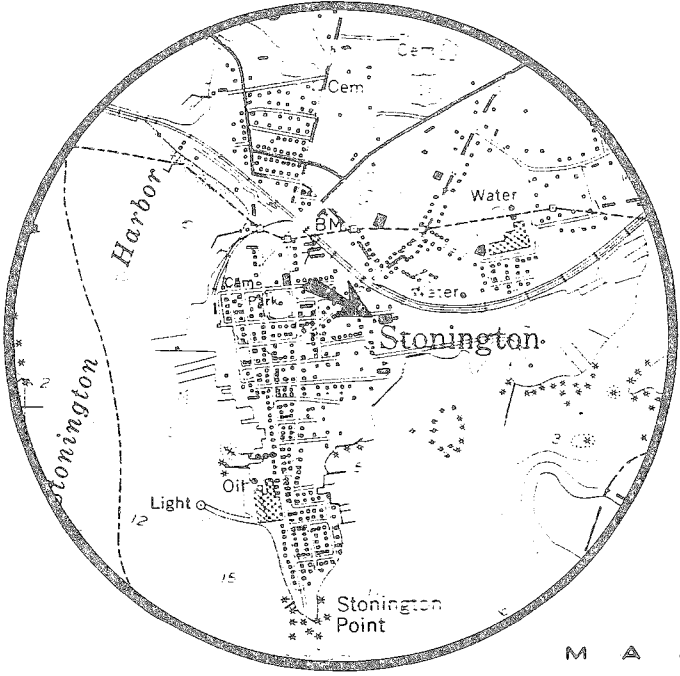
June 1982



eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site



D'AMICO PROPERTY
STONINGTON, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
D'AMICO PROPERTY
STONINGTON, CONNECTICUT

This report is an outgrowth of a request from the Stonington Planning and Zoning Commission to the New London County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Area Executive Committee for their consideration and approval. The request was approved by the RC&D Executive Committee and the measure was reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist from the United States Department of Agriculture, Soil Conservation Service (SCS). Reproductions of the soil survey map, a table of soils limitations for certain land uses and a topographic map showing property boundaries were distributed to all Team members.

The ERT that field checked the site consisted of the following personnel: Irene Winkler, Soil Conservationist, (SCS); Mike Zizka, Geologist, Connecticut Department of Environmental Protection, (DEP); Jane Kreisman, Planner, Coastal Area Management, (DEP); Dana Pumphrey, Ecologist, (CAM), DEP; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Tuesday, April 20, 1982. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Borough of Stonington. The results of this Team action are oriented toward the development of a better environmental quality and the long-term economics of the land use.

The Eastern Connecticut RC&D Area Committee hopes that this report will be of value and assistance in making any decisions regarding this particular site.

If you require any additional information, please contact: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a proposed subdivision in the Borough of Stonington. The site is located on the south side of Maple Street, near its intersection with Orchard Street. The property is currently in the private ownership of William and Mary D'Amico. A preliminary subdivision plan has been prepared by DiCesare-Bentley Engineers, Inc.

Preliminary plans show the parcel divided into three lots of 7,400 square feet, 6,000 square feet and 8,500 square feet, respectively. Lot 3 presently has a house constructed on it. Lots 1 and 2 will be served by public water and sanitary sewer. As proposed, lot dimensions conform to zoning regulations for Residential Preservation Zones as designated in the Borough.

The proposed site is entirely within the coastal flood hazard area (FIRM A-9 zone) and is composed of fill material. No sensitive coastal resources occur on or immediately adjacent to the site. The area is served by sewer and water lines and an open drainage ditch runs along the rear of the property, parallel to Maple Street. Storm sewers and catch basins of questionable operativeness are located at the northwest corner of the site and at the intersection of Hyde and Maple Streets. Elevations on site range from three feet to five feet, elevations of Maple Street range from 2.6 feet at the northeast corner of proposed lot #2 to 3.6 feet at the intersection of Orchard, Hyde and Maple Streets.

ENVIRONMENTAL ASSESSMENT

GEOLOGY

Both soils maps and geologic maps for the Stonington Borough area indicate that the D'Amico property is underlain by sandy or gravelly material of glacial origin. Some artificial filling has taken place on and in the vicinity of the site. On-site inspection by the Team indicated that the fill was predominantly coarse sand and gravel. There is no indication that swamp sediments or marsh sediments underlie the site. The Team has no information, therefore, that would suggest that the local soils would be unstable for residential development.

HYDROLOGY

Residents of the Maple Street-Orchard Street-Hyde Street area have indicated to the Team that their neighborhood is subject to frequent problems due to poor drainage. Two ostensible catch basins on Maple Street near the intersection of Hyde Street appear to have no practical ability to remove surface runoff; they are either plugged or connected to dead-end drainage lines. Runoff flowing down Hyde Street flows eastward along Maple Street after reaching the intersection. A ditch beginning at the end of Maple Street carries water into a larger channel just south of the nearby railroad.

The slope of Maple Street is less than one-half percent, according to information on file at the Stonington Town Engineer's office. The movement of surface runoff along the street is therefore relatively slow. Pockets of water may accumulate in shallow, irregular depressions in the road surface.

Although the conditions noted above may cause frequent, minor drainage problems, the principal culprit is the low elevation of the area. Maple Street's elevations are everywhere less than four feet above mean sea level. In contrast, some of the coastal flood elevations for the area have been statistically determined as follows: 4.1 feet for the annual stillwater flood level; 4.5 feet for the 2-year frequency flood; 5.3 feet for the 4-year flood; 5.5 feet for the 5-year flood; and 6.5 feet for the 10-year flood. Parts of the neighborhood may, therefore, experience water depths of one foot or more on an average of once every two years. There are simply no easy or inexpensive methods to remedy this situation: as long as the coastal waters are hydrologically connected to the residential area, that area will continue to be flooded periodically.

The establishment of new homes on the D'Amico property will increase the amount of runoff shed from the parcel during periods of rainfall, but the practical effect of this additional water would probably be negligible. When the area is inundated by coastal waters, runoff from the D'Amico site would be assimilated into the general flood level with no overall change in that level. It is only during the times when drainage follows its normal west-to-east flow route along Maple Street that the additional runoff could have an effect. Even then, however, the effects seem highly unlikely to be significant. Nevertheless, the concerns could probably be adequately mitigated by designing the impervious surfaces so as to shed water to the south, into the artificial drainage channel bordering that side of the property.

SOILS

Soil areas that have been disturbed to an extent that the natural layers are no longer distinguishable as occupied by Udorthents, smoothed. Udorthents, smoothed are designated by the soil mapping symbol ML2. Udorthents occur when soil material has been removed, or filling has occurred and the natural soil profile is buried and no longer is a major factor in interpreting an area for land use.

The nearly level, very poorly drained soils on tidal flats at the southeastern border of the property are occupied by Pawcatuck mucky peat. Pawcatuck mucky peat is designated by soil mapping unit symbol TM1. Pawcatuck mucky peat formed in partially decomposed organic material, 16 to 51 inches thick, over sandy mineral deposits. Pawcatuck soils are subject to salt water inundation twice daily. Surface runoff is very slow.

The property proposed for the three lot subdivision is occupied by Udorthents, smoothed. Filling has occurred, the original soil profile is buried. In order to determine the ability of fill material and underlying material to support development, test pits must be dug, and composition of material determined.

A plan for stormwater drainage must be developed by a professional engineer.

A drainage ditch is located along the southern property boundary. The ditch handles the flow of surface water from a catch basin along Orchard Street.

Rubble and phragmites should be cleared from the side slopes. The side slopes should be graded to a three foot horizontal to one foot vertical slope. Slopes can be vegetated and stabilized with Saltmeadow Cordgrass (*Spartina patens*). Plant materials can be obtained from Environmental Concern, P.O. Box P, St. Michaels, MD 21663.

COASTAL MANAGEMENT

COASTAL RESOURCES

The only applicable coastal resource at the proposed subdivision site is coastal flood hazard area. The resource is defined (in applicable part) as those land areas inundated during coastal storm events, including flood hazard areas as defined and determined by the National Flood Insurance Act. As discussed below, and as shown on Table 1, the project site is subject to flood water elevations ranging from 4.1 feet to 11.0 feet above National Geodetic Vertical Datum (NGVD) 0 feet, depending on the severity of the storm event. (Severity is generally described according to the chance of a flood of specified severity occurring in a given amount of time. Therefore, the "2-year" flood is a flood with a 50% chance of occurring in any given year; the "100-year" flood has a 1% chance of occurring in any given year, etc.).

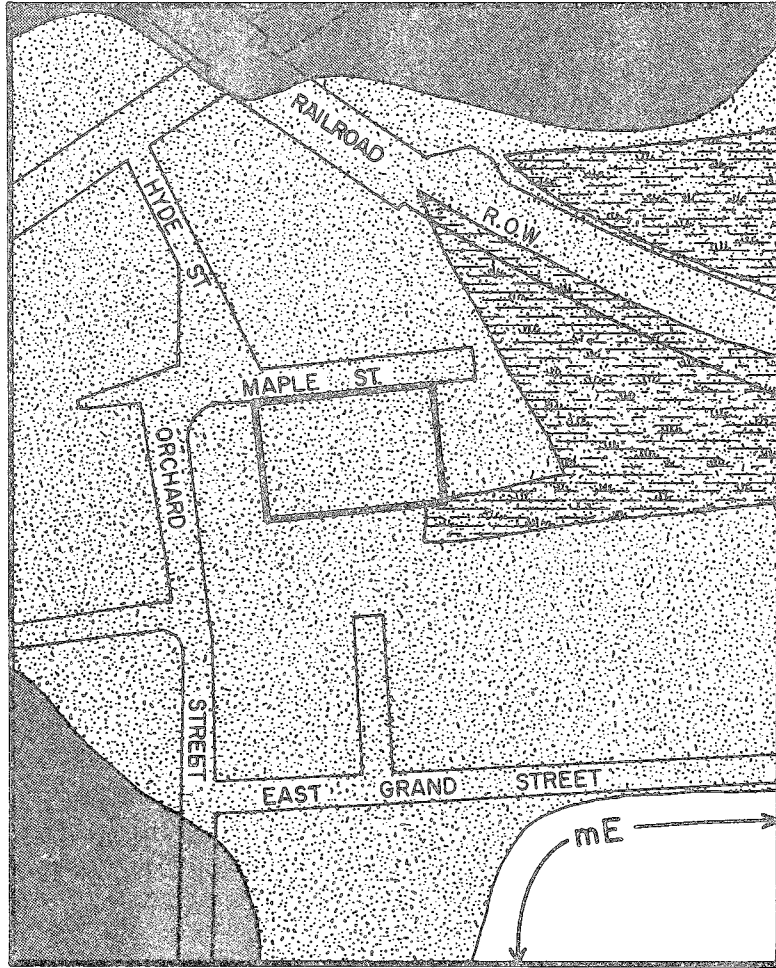
As shown in the accompanying illustration, there are no other coastal resources on the site. There are designated tidal wetlands east of both the site and the immediately adjacent Borough property, and just south of the already developed portion of the site. No impact to the tidal wetland would be expected from the subdivision or eventual single family houses to be constructed.





TABLE 1

<u>Frequency of Flood</u>	<u>Flood Level (Above NGVD 0')</u>	<u>Street Elevations</u>	<u>Flood Water Elevations (Ht. of Water Above Street)</u>
Still Water Flood	4.1'	2.6 - 3.6'	.5 - 1.5'
Two-year flood	4.5'	"	.9 - 1.9'
Four-year flood	5.3'	"	1.7 - 2.7'
Five-year flood	5.5'	"	1.9 - 2.9'
Ten-year flood	6.5'	"	2.9 - 3.9'
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100-year flood	11.0'	"	7.4 - 8.4'

SOURCE: U.S. Army Corps of Engineers, Tidal Hydrology, Interim Memo No. 2, revised.

COASTAL RESOURCES



-  PROPERTY BOUNDARY
-  COASTAL (FLOOD) HAZARD AREA
-  TIDAL WETLANDS
-  SHORELANDS
-  mE MODIFIED BLUFFS AND ESCARPMENTS

0 200 ft.
Approx. Scale



CONSISTENCY WITH COASTAL POLICIES

Applicable coastal use policies are those in the "general development" category (Planning Report No. 30, section II-A). Consistency with these policies is best determined on the basis of consistency with more specific use and resource policies and evaluation of adverse impacts. Applicable coastal resource policies are those in the "general resource" category (Planning Report No. 30, section I-A) and those in the Coastal Hazard Area category (section I-H). Again, consistency with the general resource policies is best determined on the basis of consistency with more specific resource policies and evaluation of adverse impacts. The adverse impacts specifically identified in the Coastal Management Act are not applicable to the proposed subdivision.

The significant policies regarding this subdivision are Coastal Flood Hazard Area policies. Specifically, it is State policy "to manage coastal hazard areas so as to insure that development proceeds in such a manner that hazards to life and property are minimized" (emphasis added). The significance of this policy to the case at hand relates to the ingress and egress to the site of additional families during flood situations. It will be possible to flood-proof homes on lots two and three to the 100-year flood level and this will indeed be required of any structures on site. (It is important to note that the construction of individual single-family homes will be exempt from the coastal site plan review process.) However, existing road elevations are such that they may be impassable by vehicles during flood events. (See Table 1.) This situation may increase the hazards to life and property, and if so, would be inconsistent with the aforementioned coastal management policy. Factors to be considered in determining consistency with this policy include:

- distance to dry areas (proximity of vehicular access)
- alternative flood control measures (i.e., diking)
- future scheduled capital improvements (i.e., raising road elevations)

These factors, singularly or jointly, can form the basis of conditional subdivision approval. That is, if the Planning and Zoning Commission finds that the subdivision proposal is unacceptable due to the lack of dry access, it can condition approval upon the floodproofing of the road. This could include requiring that the elevation of the road be raised for the distance to the nearest dry access point. The feasibility of this approach should be assessed by the Commission, the Town engineer and the developer. The difficulties inherent in this approach relate to the fact that 65% of the Borough lies within flood hazard area and many local streets are below the applicable flood elevations. At the very least, it is recommended that the Borough Planning and Zoning Commission request that the applicant address this issue and attempt to minimize the flood hazards prior to its coastal site plan review and decision.

About the Team

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the Team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, sanitary landfills, commercial and industrial developments, sand and gravel operations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected officials of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the Chairman of your local Soil and Water Conservation District. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360.