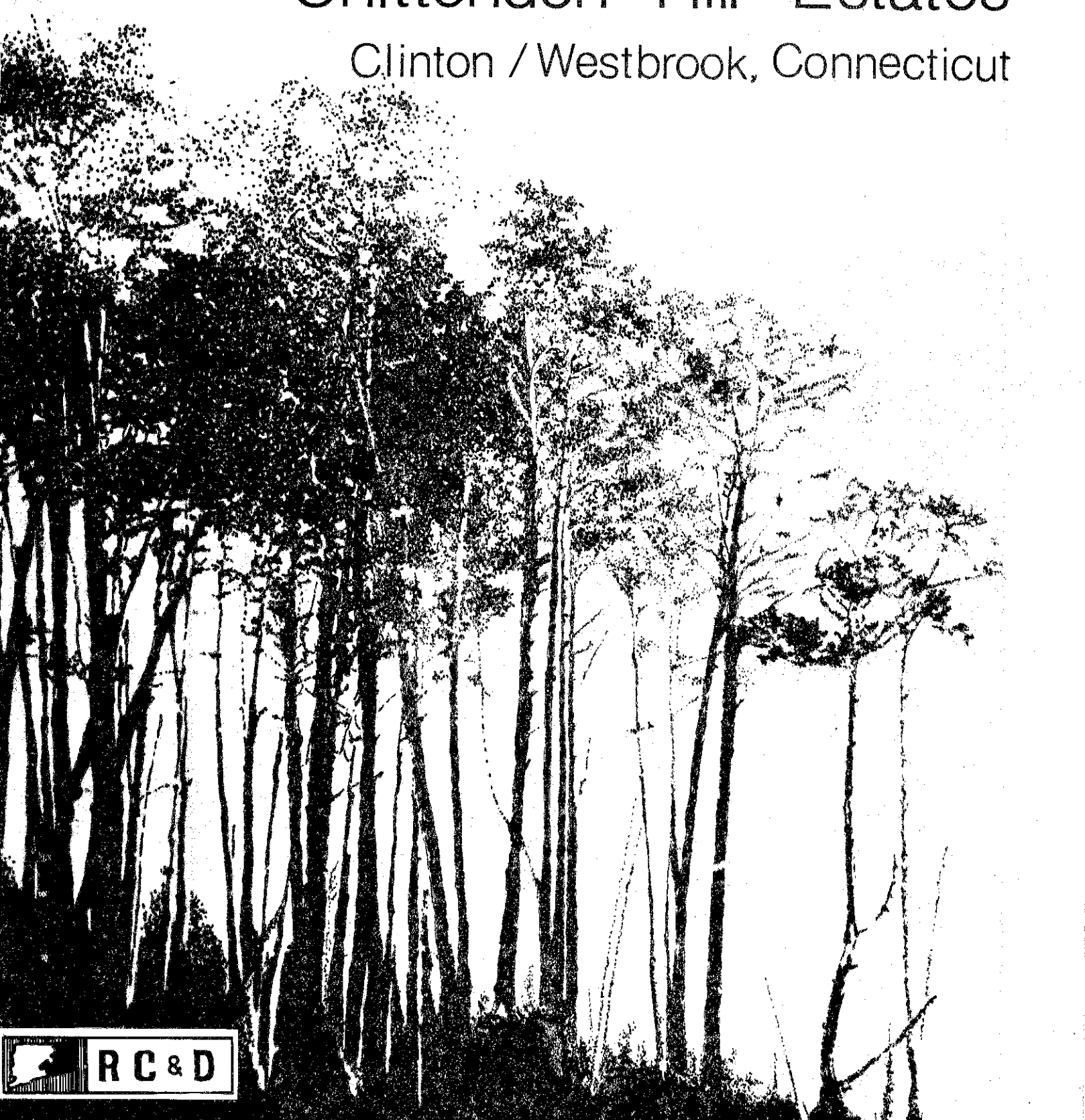


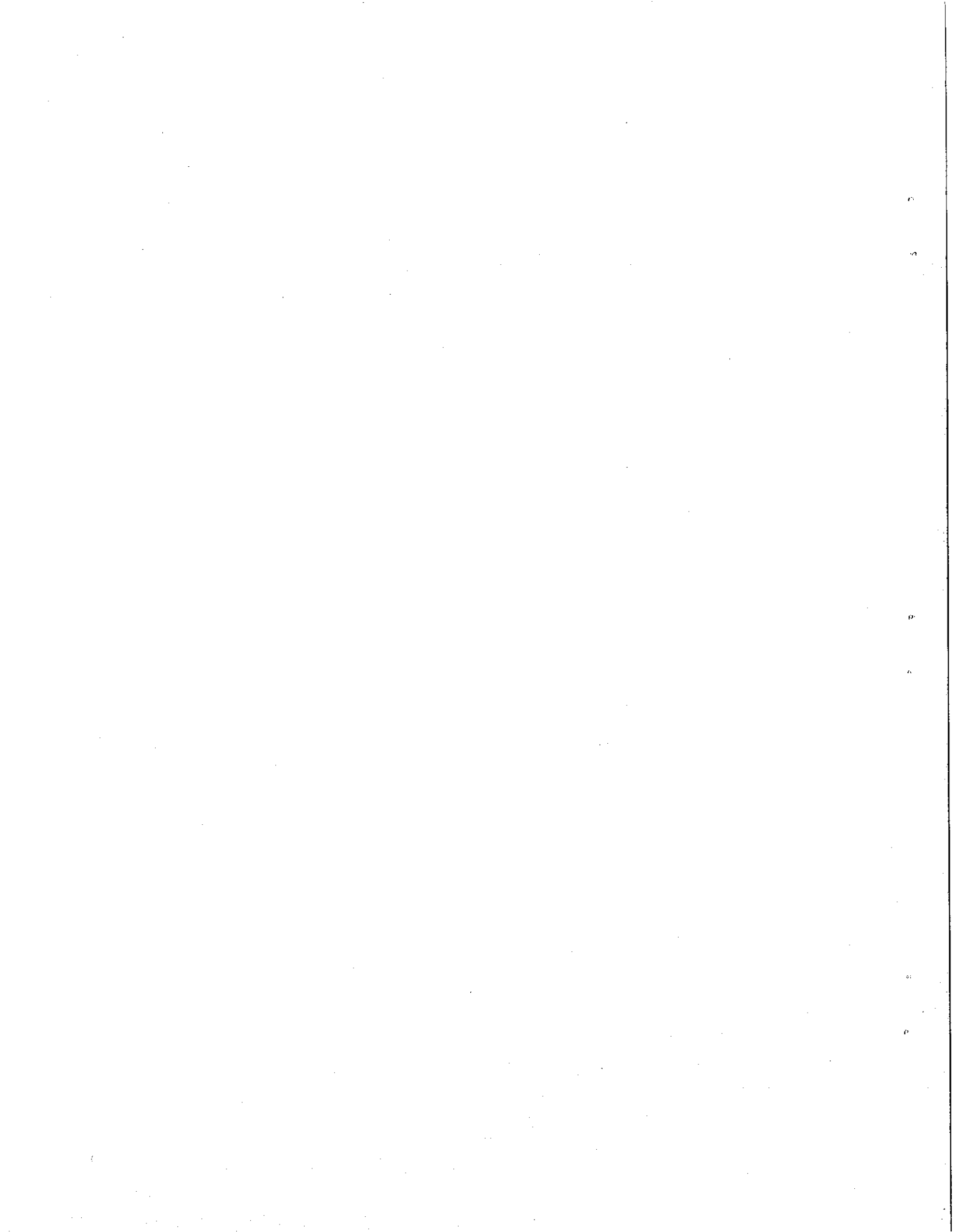
Environmental Review Team Report

Chittenden Hill Estates

Clinton / Westbrook, Connecticut



EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.



Environmental Review Team
Report
on

Chittenden Hill Estates
Clinton / Westbrook, Connecticut

October 1978

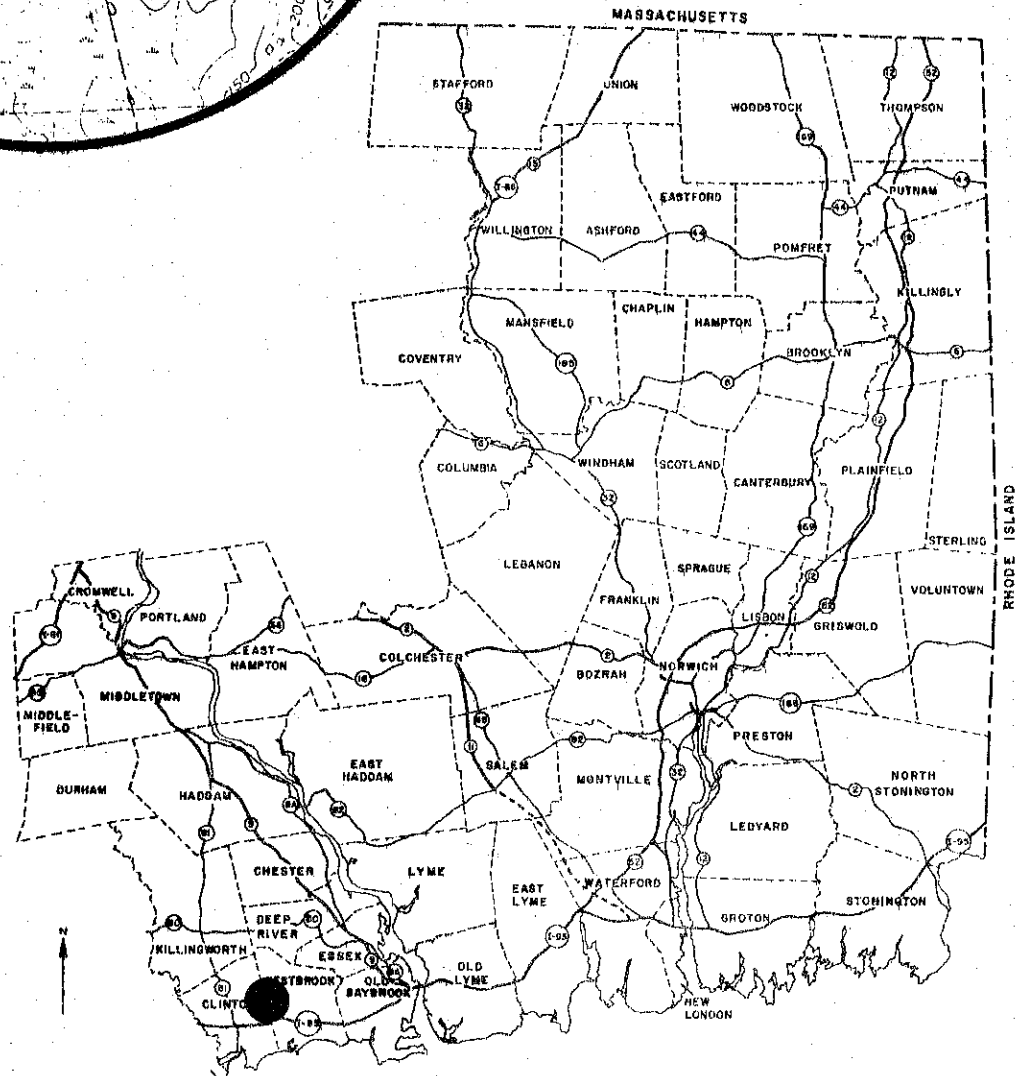
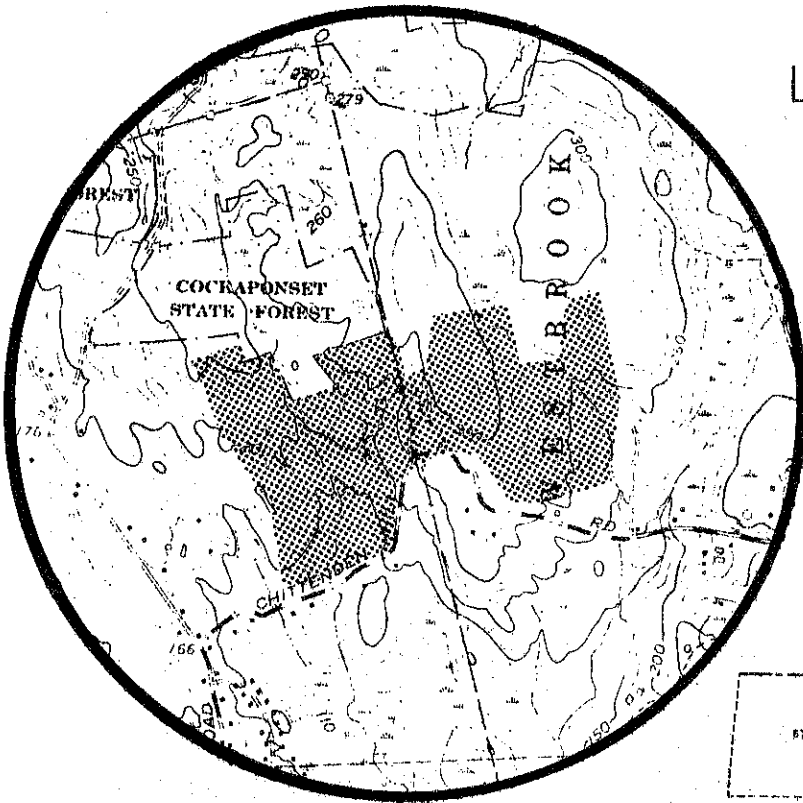


eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site

CHITTENDEN HILL ESTATES
CLINTON/WESTBROOK, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
CHITTENDEN HILL ESTATES
CLINTON/WESTBROOK, CONNECTICUT

This report is an outgrowth of a request from the Clinton Planning and Zoning Commission to the Middlesex 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 for the RC&D Executive Committee by David Syme, Committee President, 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 prior to their review of the site.

The ERT that field-checked the site consisted of the following personnel: Barry Cavanna, District Conservationist, Soil Conservation Service (SCS); Joe Neafsey, Soil Conservationist (SCS); Mike Zizka, Geologist, Connecticut Department of Environmental Protection (DEP); Tim Hawley, Forester, DEP; Stan Greimann, Regional Planner, Midstate Regional Planning Agency; Don Capellaro, Sanitarian, State Department of Health; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, August 10, 1978. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

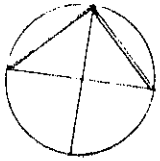
This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of Clinton. 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.

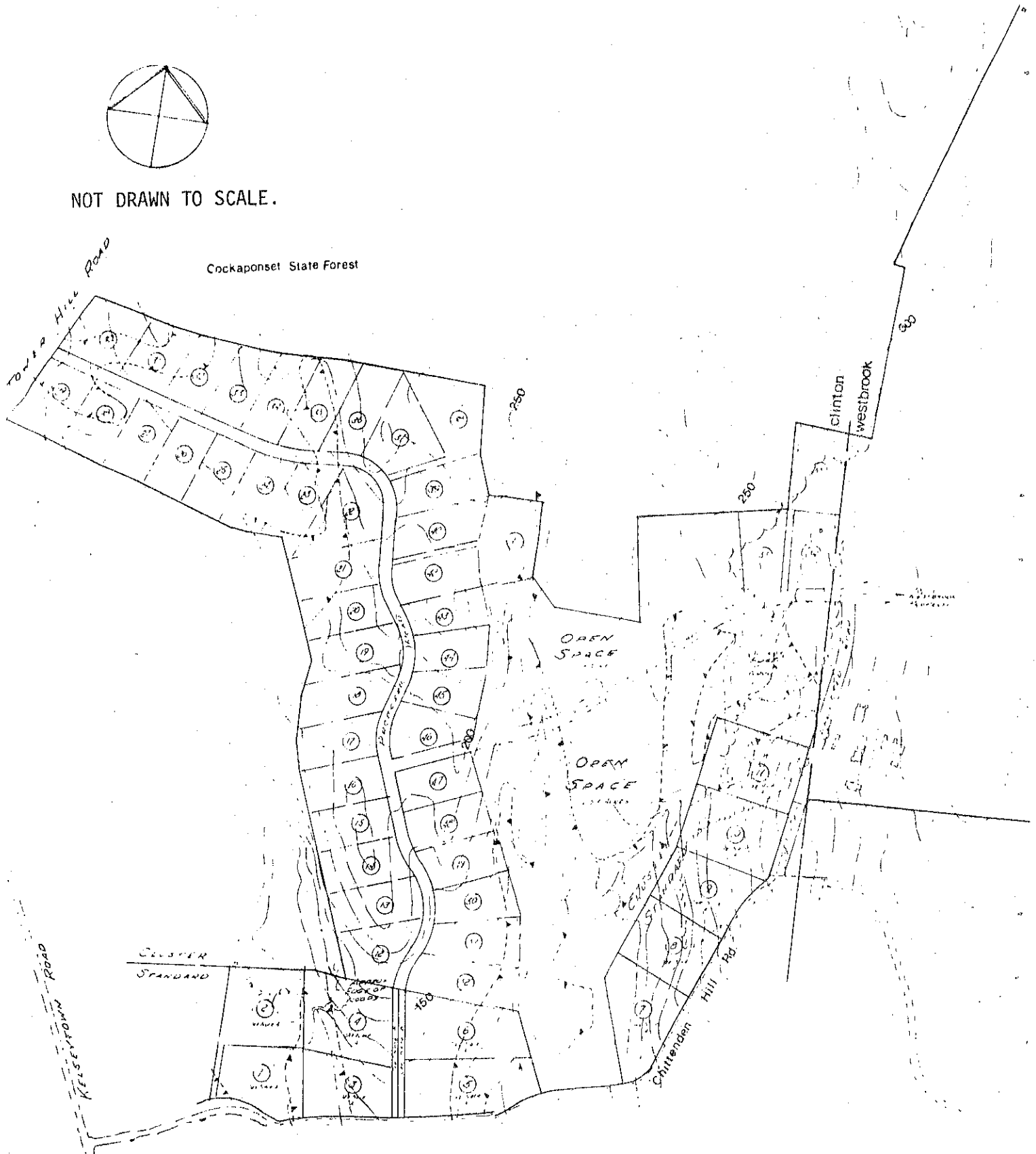
If you require any additional information, please contact: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

Preliminary Subdivision Plan

CHITTENDEN HILL ESTATES
CLINTON/WESTBROOK, CONNECTICUT



NOT DRAWN TO SCALE.



INTRODUCTION

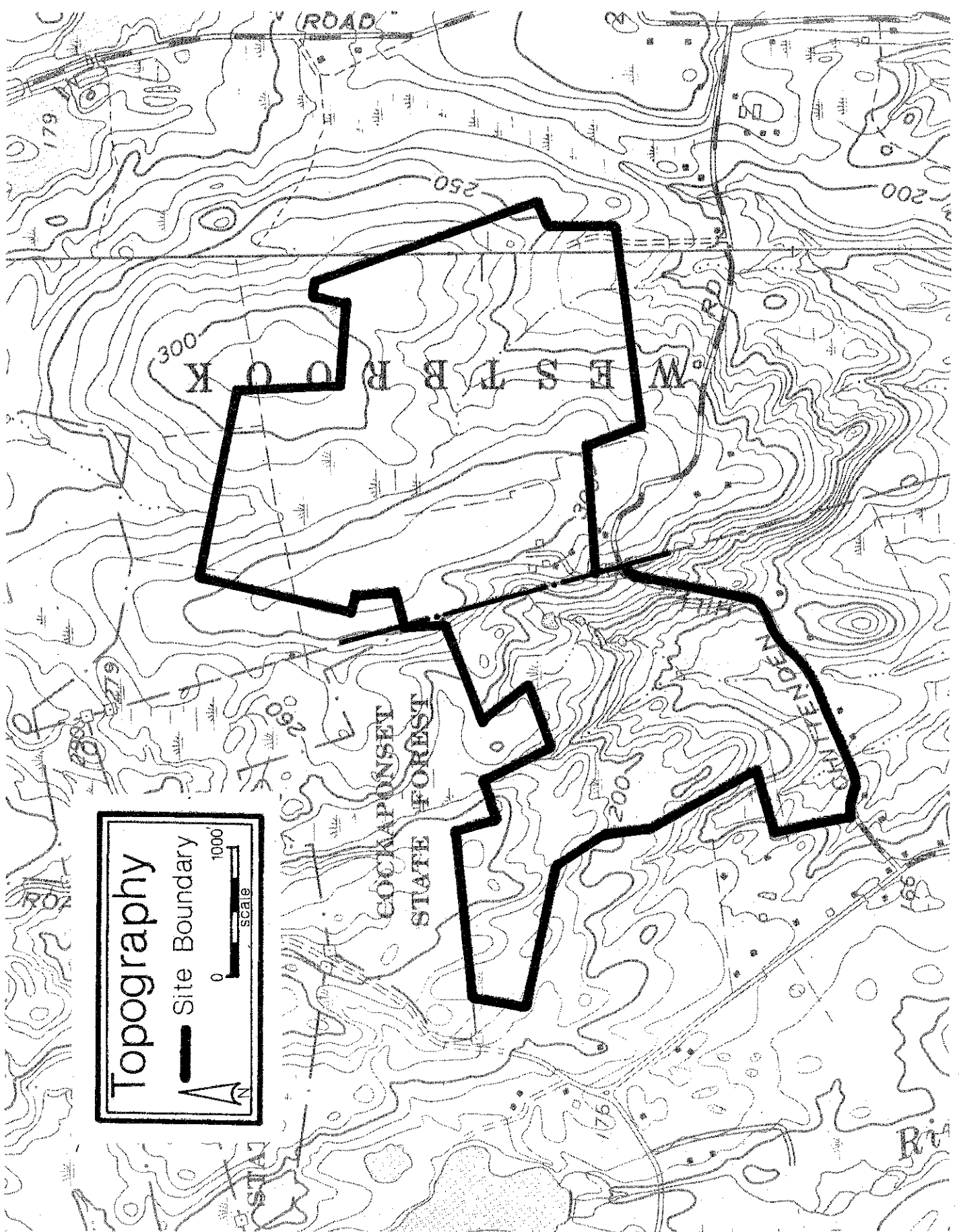
The Eastern Connecticut Environmental Review Team was asked to review Chittenden Hill Estates, a subdivision proposed for 300± acres, located in the towns of Clinton and Westbrook. Preliminary plans for the Clinton section of the parcel (122± acres) are being prepared by the Ralph Waldo Engineering firm of Guilford.

The proposed plan shows a subdivision of 11 lots (Section I 25.4 acres) fronting on Chittenden Hill Road, a lightly travelled, winding country lane, which begins at Kelseytown Road and extends to Connecticut Route 145 (Horse Hill Road). An additional cluster of approximately 55 lots is proposed for the remaining land in the Clinton parcel. A corridor of permanent open space, which incorporates the wetlands present on the site, is planned to extend from the State Forest boundary on the north to Chittenden Hill Road on the south. These single family homes will be serviced by on-site wells and on-site septic systems. A single access road, extending from Chittenden Hill Road to Tower Hill Road will serve these interior lots. Another proposed road will intersect with this road, cross the open space area and connect with the abutting parcel in Westbrook. As the Westbrook parcel does not have any road frontage, currently no subdivision plans are proposed. Sole access would be through the Clinton section of the subdivision which would cause some obvious circulation problems.

This area is presently zoned for single family residences on a minimum lot size of 80,000 square feet. Cluster provisions would allow for a reduction in lot size to 48,000 square feet.

The Clinton section of the site is forested with a fairly young stand of mixed hardwoods. Its slopes are relatively steep and rocky. Wetlands are also in evidence on this portion of the site. The Westbrook parcel, recently used as a boarding stable and horse farm, is composed of many open fields and very small woodland areas. Six structures (barns and houses) are on the site, as well as a small wetland area and pond. The terrain on this section of the parcel is relatively flat.

The Team is concerned with the potential impact of the proposed 66 lot subdivision in Clinton and an additional 100± lot subdivision in Westbrook on the natural resource base of this site. Before final plans are accepted for the Clinton section of this subdivision, the engineers should include information addressing changes in runoff volumes and peak flows produced by the development and appropriateness of culvert size under Chittenden Hill Road. Consideration should also be given to eliminating the proposed access road which crosses the open space/wetland area, by extending this road through the wetland, the effectiveness of this wildlife habitat is impaired by destroying the continuity of the corridor from the State Forest boundary to Chittenden Hill Road. Potential septic system problems, such as flooding of tile lines and effluent outcropping, may occur in areas where soils are shallow to bedrock or of slow percolation rate. Additional soil testing should be done to establish suitability of soils for septic systems before the cluster proposal is approved. Wetlands on the site should be protected during construction by adequate sediment and erosion control measures. Two final and important concerns for the Clinton Planning and Zoning Commission to consider before approval of final plans for this proposal are the ability of the Clinton school system to absorb additional students from this subdivision and the responsibility of the Town for future road improvements.



Topography

— Site Boundary

0 1000
SCALE

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ENVIRONMENTAL ASSESSMENT

GEOLOGY

Most of the surficial geologic material on the Chittenden Hill property is till, a glacial deposit consisting of rock particles of all shapes and sizes. The particles were collected by a glacier as it moved across the land, and were subsequently redeposited directly from the ice. Because the ice picked up, transported, and redeposited the particles without regard to their individual physical characteristics, till is variable in texture. However, because the bedrock in the vicinity of the property is coarse-grained and quartz-rich, most of the till is rather sandy and friable. The depth of the till is variable also, but it appears to be much thinner in the Clinton half of the property (see accompanying illustration).

Bedrock throughout the property is classified as Monson Gneiss (source: The Bedrock Geology of the Clinton Quadrangle, Connecticut Geological and Natural History Survey Quadrangle Report No. 29, by Lawrence Lundgren, Jr., and R.F. Thurrell). It is a primarily coarse-grained metamorphic rock composed of the minerals quartz, feldspar, biotite, and several accessories. Pink-colored pegmatite, a very coarse-grained rock of granitic composition, intrudes the gneiss in many places.

HYDROLOGY

Drainage within the Clinton section of the property is relatively poorly organized. Runoff flows into intermittent streams from small swales and valleys within the knobby, bedrock-controlled surface of the land. A few shallow basins retain water temporarily until it either evaporates or is absorbed by the soil. Most of the runoff from this part of the property is channeled into two streams that pass under Chittenden Hill Road. The overall watersheds of the two streams are shown in the accompanying illustration. Drainage in the Westbrook section of the property is not well-organized, but the bedrock appears to have less influence on the topographic surface in this section. Most of the runoff in this area is channeled into one stream, which flows under Chittenden Hill Road.

Runoff from the Clinton section of the property was analyzed by a method outlined in Technical Release No. 55 of the Soil Conservation Service. Runoff from the Westbrook section was not specifically analyzed because no detailed development plans had been submitted for that area; however, it is likely that the percentage increases in runoff for individual developed acres in the Westbrook section would be similar to those estimated for the Clinton section.

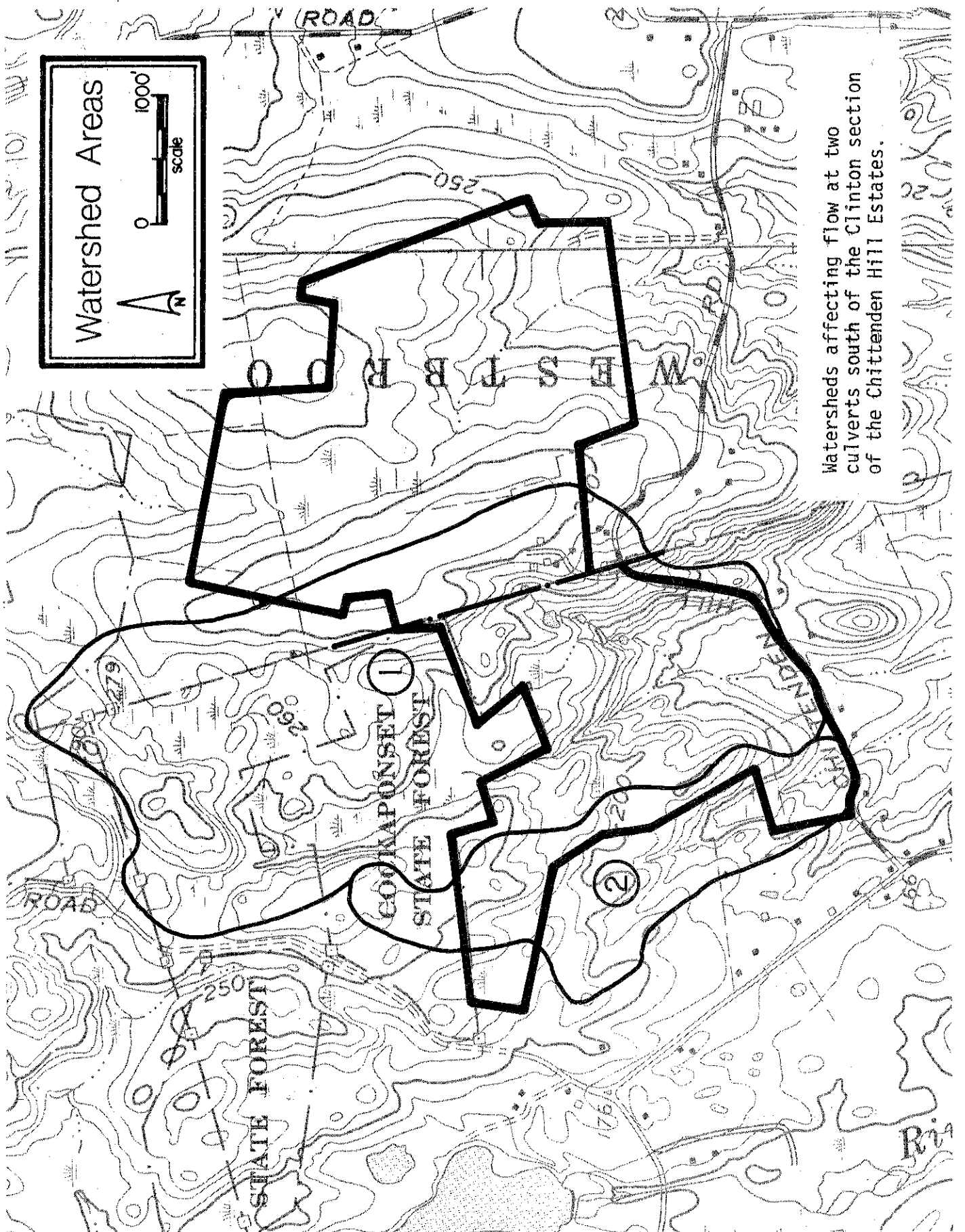
The results of the analysis of the Clinton section are shown in the accompanying table. The volumes shown are based upon 6-hour duration storms of different magnitudes; for instance, the 6-hour, 100-year storm is one of great intensity that occurs on an average basis of once every hundred years, while the 6-hour, 2-year storm is one of lesser magnitude that occurs much more frequently. The estimated increases in runoff volumes are significant, and two important points are demonstrated: (1) the percentage of the increase will be greater for the more frequent storms, and (2) the percentage increases for the watershed as a whole are smaller than the increases that will occur on any individual acre that is developed. The table also shows potential increases in peak flows at the culverts under Chittenden Hill Road. These last values are important because the culverts are both quite small.

TABLE 1: ESTIMATED RUNOFF CHANGES FOR THE CLINTON SECTION OF
CHITTENDEN HILL ESTATES*

STORM EVENT

Precipitation (inches)	5.2	3.6	2.5
Present runoff (acre-feet)			
Watershed 1	49.8	26.4	12.4
Watershed 2	14.4	7.7	3.6
One developed acre	0.218	0.116	0.054
Future runoff (acre-feet) and percent increase from present runoff			
Watershed 1	51.9 (2.6%)	27.7 (5.0%)	13.1 (6.1%)
Watershed 2	15.4 (6.9%)	8.6 (13.0%)	4.1 (15.4%)
One developed acre	0.273 (24.8%)	0.157 (35.3%)	0.084 (55.4%)
Present peak flows at culverts under Chittenden Hill Road (cubic feet per second)			
Watershed 1	421	211	98
Watershed 2	189	95	43
Future peak flows at culverts under Chittenden Hill Road (cubic feet per second) and percent in- crease from present peak flows			
Watershed 1	462 (10%)	236 (12%)	117 (19%)
Watershed 2	208 (10%)	107 (12%)	52 (21%)

* Figures shown are not meant to be exact engineering data, but only general guides to probable changes.

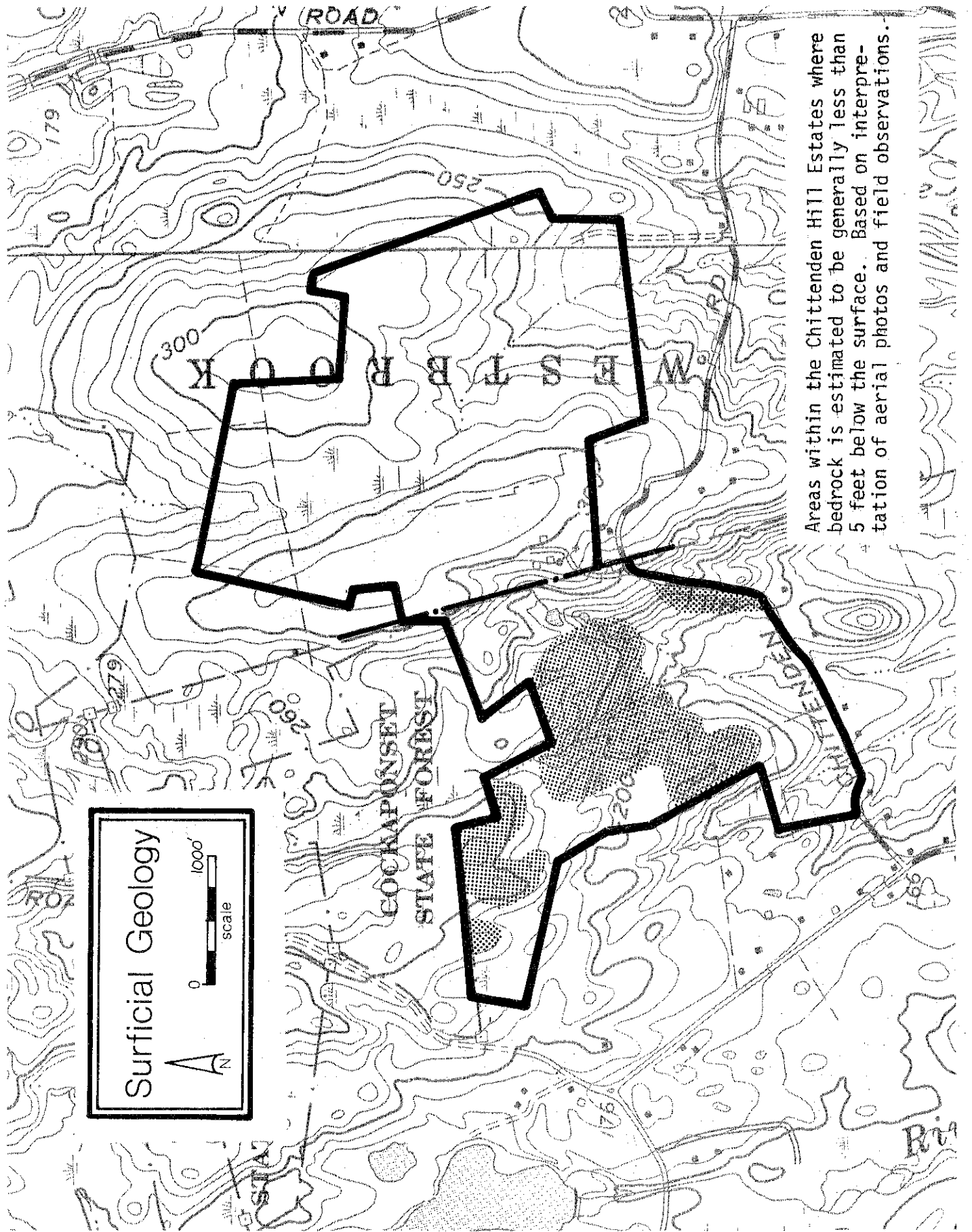


Watershed Areas

0 1000' scale

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Watersheds affecting flow at two culverts south of the Clinton section of the Chittenden Hill Estates.



Areas within the Chittenden Hill Estates where bedrock is estimated to be generally less than 5 feet below the surface. Based on interpretation of aerial photos and field observations.

The numbers presented in the table are meant only as ballpark guides to runoff increases, and should not be construed as exact engineering data. The estimates themselves are based on incomplete information; they probably are somewhat conservative, as they do not take into account the construction of roads or drainage channels, or the topographic modifications that will be necessary in many areas because of the irregularity of the land. However, the numbers do show the need for special care in designing drainage measures in order to avoid localized erosion, sedimentation, and flooding problems, and for a more thorough evaluation of the culverts under Chittenden Hill Road and their ability to handle future peak flows. Because of the apparent need for cut-and-fill in many areas, the opportunity for sedimentation in the local wetlands will be great without appropriate precautions. The final subdivision plan should include some discussion of the previously outlined hydrologic data.

VEGETATION/WILDLIFE RESOURCES

The Clinton section of the subdivision is presently vegetated with a fairly young stand of mixed hardwoods. Hornbeam, red oak and white oak, gray birch, dogwood, red maple and Norway maple, hickory, tulip poplar, ash, and beech species were observed. Recent selective logging has occurred on the site, but a thick canopy still exists, thus the understory is thin. Spicebush, honeysuckle, wild grape, brambles, laurel, maple leaf viburnum, and chestnut sprouts were present. In the limited areas that have been cleared, native grasses, elderberry, sumac, sassafras and brambles exist.

The value of the area as food supply for native deer is fair, and most likely utilization is for cover or water. The adjoining abandoned farm land and State Forest land provide excellent food supplies for deer, as well as other mammals and songbirds. Gray squirrel and raccoon are most likely present in significant numbers. Numerous shell casings on the roadways and paths are evidence of use of the area for hunting purposes.

The 35± acres slated for open spaces will help lessen the environmental impact of residential construction on this parcel. The upland areas can be enhanced for wildlife by creating several small clearings 1/2-1 acre in size, piling brush and either planting wildlife shrubs or allowing native vegetation to reestablish itself.

Underplanting of remaining upland areas with hemlock or creating clearings and planting with pine or spruce will also be beneficial. Pond or marsh construction are also possibilities within wetland areas. On the residential lots landscaping with wildlife shrubs, underplanting and allowing strips of native grass to grow will also improve the value of the area for wildlife.

Ponds on the western portion of the area provide limited open water and marsh habitat, and are water supplies for wildlife during dry periods. These should remain undisturbed, with the exception of clearing around the edges to promote brushy growth or grass establishment.

It is suggested that the proposed road not be put through the open space area. This road will effectively isolate the lower 25-acre open space plot, and the loss of continuity between the open space area and the State Forest will lessen the wildlife value and use of the area. Since the road will effectively serve only

three lots (53, 54, 55) initially, its need is questionable. Access to lots 10 and 11 will be provided by upgrading the farm driveway, and this lane can both provide service to lots 53-55 and later be improved to service additional lots on the Westbrook parcel. The right of way between lots 46 and 47 can be used to provide access to the open space area.

Wetlands and open space areas on the parcel should be protected from degradation as much as possible. A sediment and erosion control plan should be developed and implemented for the site. In addition, an undisturbed buffer zone of 50-100 feet should be left around wetland areas, where feasible, to protect against encroachment and disturbance.

The Westbrook portion of the subdivision consists of relatively level land. Approximately two-thirds of the area is mixed hardwoods with uplands and wetlands similar to those on the Clinton portion. The western third of the site (\pm 50 acres) is an abandoned farm. The hayfields are in excellent condition and are still utilized. Hedgerows and field edges provide excellent wildlife habitat. A thick stand of thistles exists, and was being heavily utilized by a goldfinch flock at the time of the field review. Fruiting shrubs and seedlings are also abundant.

Where stones have been cleared, the fields can be considered prime agricultural land, and efforts should be made to preserve it by selling development rights to the State, or by other means. Preservation of this area as farmland will also add diversity to the area and improve wildlife habitat.

Since a detailed development plan is not yet available, no assessment of the potential environmental impact of residential development on this site can be made at this time.

FOREST RESOURCES

Forested areas cover 80% of the 300 \pm acre property. Twenty percent remains in open fields. Wetland vegetation (type RM) is limited to two small areas totaling approximately 6 acres.

One hundred ninety acres (type MH-3) of the forest were logged about 10 years ago and now contain a mixture of pole-sized hardwoods. Black birch and red maple are the most common species. The understory consists primarily of hardwood tree seedlings and shrubs. An additional 22 acres (type MH-2) were cut more heavily and now contain very dense maple, birch and oak saplings.

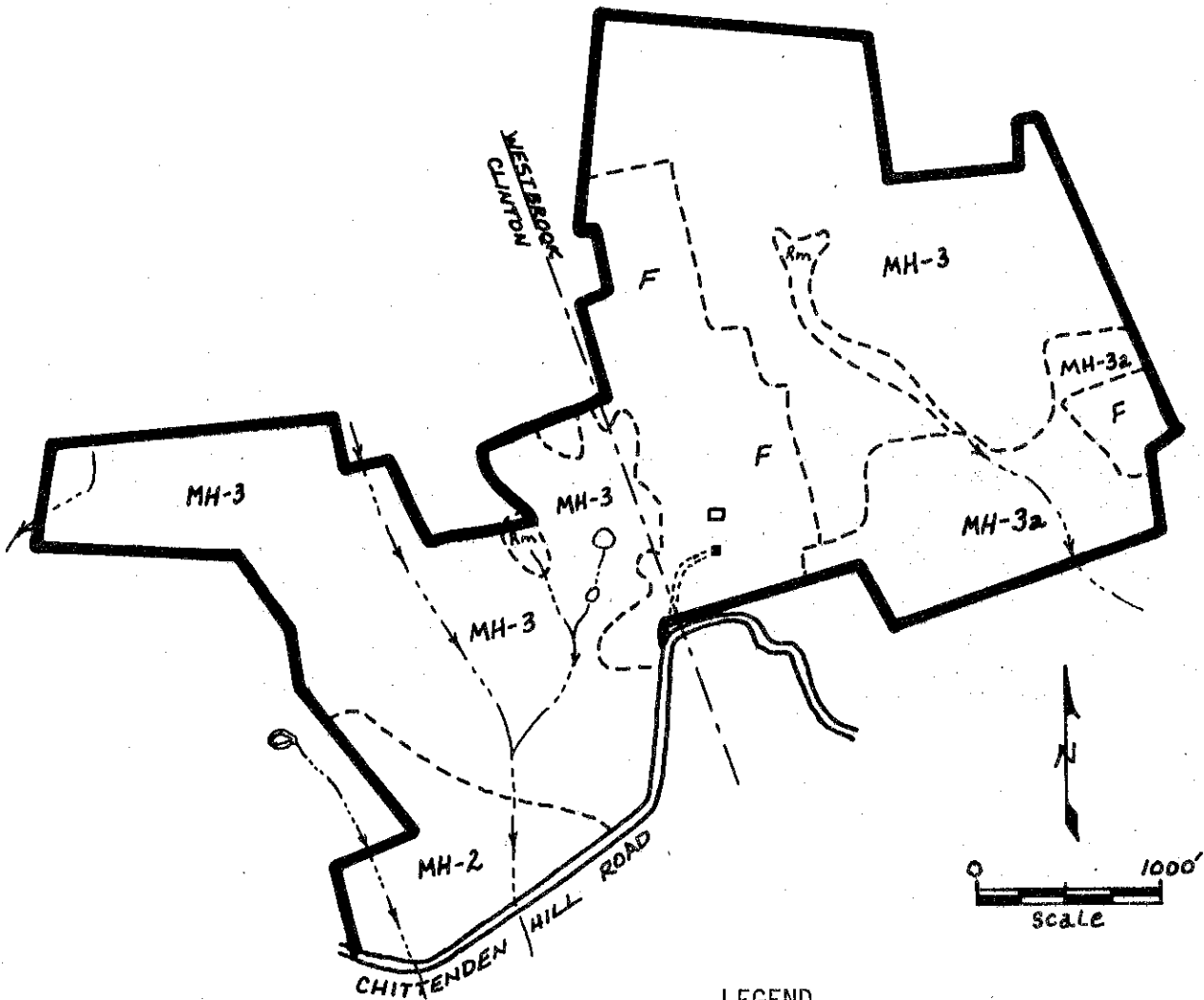
Pole-sized tulip tree is the principle component of 32 acres (type MH-3a) which were not cut as recently as the other areas. The trees in this area have become too crowded to maintain a high rate of growth.

Hayfields containing a mixture of grasses and legumes occupy approximately 50 acres of the parcel. These are the most level and least stony parts of the property.

A fragipan exists within 24 inches of the surface in most of the soils on the property. Therefore, trees are probably shallow-rooted and predisposed to blow down. The high density of trees on parts of the site aggravates this condition. In order to reduce this hazard, a thinning of stand density by one third,

VEGETATION MAP

CHITTENDEN HILL ESTATES
CLINTON/WESTBROOK, CONNECTICUT



LEGEND

- Property Line
- - -** Vegetation Type Boundary
- ~** Intermittent Stream
- MH-2** Mixed Hardwoods, Sapling Size (22 Acres)
- MH-3** Mixed Hardwoods, Pole Size (190 Acres)
- MH-3a** Mixed Hardwoods, Dense Pole-Size (32 Acres)
- F** Hayfields (50 Acres)
- Rm** Red Maple Swamps (6 Acres)

to provide more growing space for the largest crowned trees should be conducted several years before house lots are cleared. This would give trees time to extend their root systems and strengthen their trunks before wind corridors are created. A private forester should be retained to mark trees to be cut and supervise the harvest.

Trees whose roots would be disturbed by construction activities should be removed when house lots are cleared. Although symptoms might not appear for several years, trees which have had large roots broken, exposed, or buried seldom survive.

The young trees in the MH-2 type are sufficiently small that blowdown and root disturbance would not occur to a significant extent.

SOIL

A detailed soils map of this site is included in the Appendix to this report, accompanied by a chart which indicates soil limitations for various urban uses. As the soil map is an enlargement from the original 1,320'/inch scale to 1000'/inch, the soil boundary lines should not be viewed as absolute boundaries, but as guidelines to the distribution of soil types on the site. The soil limitation chart indicates the probable limitations for each of the soils for on-site sewerage, buildings with basements, buildings without basements, streets and parking, and landscaping. However, limitations even though severe, do not preclude the use of the land for development. If economics permit large expenditures for land development and the intended objective is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used. The soils map, with the publication Special Soils Report, Connecticut River Estuary Planning Region, can aid in the identification and interpretation of soils and their uses on this site. Know Your Land: Natural Soil Groups for Connecticut can also give insight to the development potentials of the soils and their relationship to the surficial geology of the site.

Soils typical of the Chittenden Hill Estates site include the Woodbridge series, the Paxton-Montauk series, the Charlton-Hollis series, the Canton series and the Ridgebury-Whitman series, a regulated wetland soil under P.A. 155. These soils limit development by their slope, large stones, depth to bedrock, slow percolation rate and susceptibility to frost action.

The Woodbridge series consists of nearly level, gently and moderately sloping, moderately well-drained soils on drumlins, and rounded or elongated hills of uplands. They formed in compact glacial till. Woodbridge soils have moderate permeability in the surface layer and subsoil, slow or very slow permeability in the substratum (fragipan), and a seasonal high water at 18 to 24 inches. Major limitations are related to wetness, slow permeability and stoniness.

The Paxton series consists of well-drained soils on drumlins, and rounded or elongated hills of uplands. They formed in compact glacial till. Paxton soils have moderate permeability in the surface layer and subsoil, and slow permeability in the substratum (fragipan). Major limitations are related to slope, stoniness, and slow permeability in the substratum.

The Montauk series consists of gently to moderately sloping, well-drained soils on drumlins, and rounded or elongated hills of uplands. They formed in

compact glacial till. Montauk soils have moderate permeability in the surface layer and subsoil, and slow permeability in the substratum (fragipan). Major limitations are related to stoniness and slow permeability in the substratum.

The Charlton series consists of well-drained soils on uplands. They formed in friable glacial till. Charlton soils have moderate to moderately rapid permeability. Major limitations are related to slope and stoniness.

The Hollis series consists of shallow, well-drained soils on uplands where relief is influenced by the underlying bedrock. They formed in glacial till less than 20 inches deep, over granite, gneiss and schist bedrock. Hollis soils have moderate permeability. Major limitations are related to depth to bedrock, rockiness, and slope.

The Canton series consists of well-drained soils on uplands. They formed in a fine sandy loam mantle underlain by friable gravelly sand glacial till. Canton soils have moderately rapid or rapid permeability. Major limitations are related to slope and stoniness.

The Ridgebury-Whitman series is made up of poorly and very poorly drained soils. These soils occur in an intricate and complex pattern and separation of each individual soil was not practical on the scale surveyed. Each mapping unit may contain an individual soil or a percentage of each of the two soils. They are similar to the soil described for their series. More than 3 percent of the surface is covered with stones.

The proposed Chittenden Hill Estates subdivision is located in an area with many wetlands and bedrock outcrops. Many of the lots in the northwest corner of the proposed subdivision are located primarily in wetlands. Construction in these fragile areas should be avoided. The area does not appear to be suitable for the typical standard subdivision; hence, a cluster design should be considered as a way of optimum utilization of developable land and preservation of wetland areas. Access roads are also proposed to cross wetlands in the northwest section of the site and the proposed open space area. Consideration should be given to rerouting these roads to avoid these critical areas.

Given the nature of the soils on this property and extensive wetlands that exist, a sediment and erosion control plan should be included on the final plans and implemented during construction. Connecticut's Erosion and Sediment Control Handbook, published by the Soil Conservation Service will aid both the developer and the Town in preparing and approving an adequate erosion and sediment control plan. Standards and specifications for both mechanical and vegetative practices listed within the handbook are available at the Middlesex County Soil Conservation Service Office, Haddam, Connecticut.

WATER SUPPLY

Water is proposed to be supplied to the subdivision by individual on-site wells. Bedrock is the only suitable aquifer for this purpose on the property. Yields from bedrock wells are dependent in part on the number and size of water-bearing fractures encountered by the well. This factor, in turn, is related to the depth of the well. Nevertheless, if an adequate yield has not been achieved with a well depth of about 200 feet, the chances for obtaining significantly more

water at deeper levels is slight. Although the yield from a specific location cannot be predicted, it appears likely that most wells will be able to meet domestic needs (about 3 gallons per minute).

The quality of the groundwater is likely to be good, at least initially. Some potential for contamination by septic system effluent exists in areas where bedrock is near the surface.

WASTE DISPOSAL

In areas where bedrock is within five feet of the surface, the potential for septic system problems is high. Potential hazards include backups, "outcropping" of effluent, and groundwater contamination. In areas where the accompanying soils map indicates soils with a slowly permeable layer or with seasonally high water tables, septic systems may be affected in several ways:

- (1) flooding of the tile lines would cause backups
- (2) frequent saturation of the leaching fields could plug the tiles and drainage channels with fine sediments, causing failure
- (3) effluent released into soils with the problems mentioned above may "outcrop"; that is, it may emerge onto the surface of the land
- (4) the amount of purification of the effluent that soil organisms could provide would be reduced by the absence of air within the soil pores

The last consideration probably is the most important: poorly renovated effluent could enter the bedrock fracture network and contaminate the groundwater supply of local wells. This hazard is further enhanced by the thinness of the till in some areas.

Great care should be used in designing and locating all septic systems, particularly in those regions where the till seems to be thinnest. Techniques that may be proposed to lower the water table should be shown to work on each site before the systems are installed.

ROADS

Local concern has been expressed regarding adequacy of road access to the site. Chittenden Hill Road is currently very narrow and winding. Road shoulders are also eroding. Road realignment and right-of-way widening potentials should be considered by the Planning and Zoning Commission while reviewing the subdivision proposal. Road improvement traditionally has been the responsibility of the Town.

A Westbrook section of the road is a very picturesque country lane, bounded by stone walls and maples. The Planning and Zoning Commissions of both towns should endeavor to preserve that section by exploring ways to provide an alternative route to Route 145 through the new land development pattern.

SERVICES TO SUPPORT DEVELOPMENT

It is the stated general policy of Clinton's Plan of Development not to encourage extension of the central water supply system to the R-80 zones. However, the Connecticut Water Company supply lines from the Kelseytown Reservoir follow

Kelseytown Road, which also fronts on this potential development, thus making public water supply a possibility in this instance.

No sewers are currently available in Clinton, nor are they encouraged to be installed as a matter of public policy in the Clinton R-80 zone.

Adequacy of the existing school system has also been a major concern to the citizens of Clinton. The number of school children added by the development of this subdivision may not be significant, but in conjunction with other sizable developments on-going in Clinton, may cause a need for an additional school in the Clinton system.

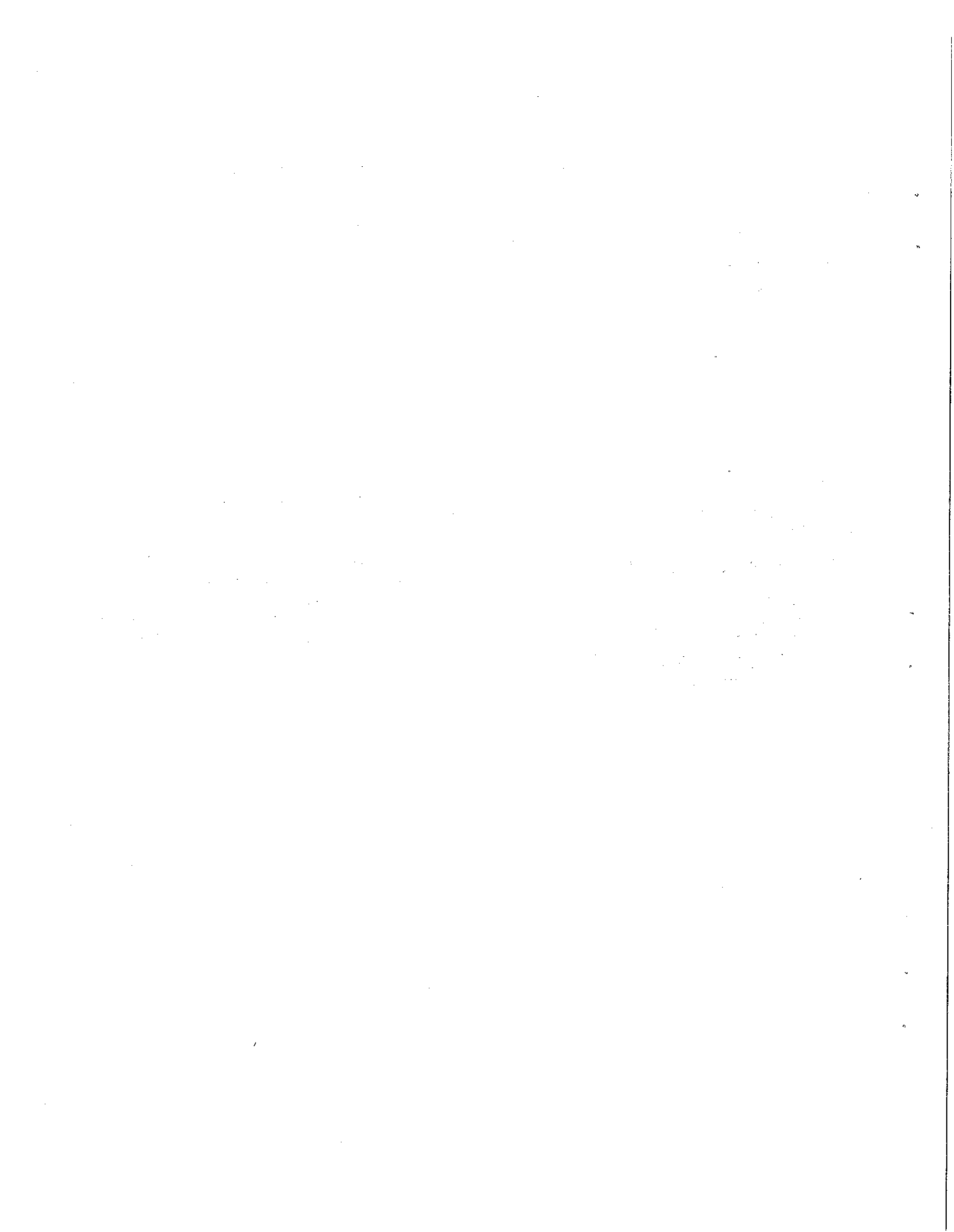
COMPATIBILITY OF SURROUNDING LAND USES

Rural residential uses prevail with other scattered small subdivisions existing in the near vicinity.

ALTERNATIVE LAND USES

The site's remote location from most public services and its proximity to State Forest lands suggest an alternative use as public open space.

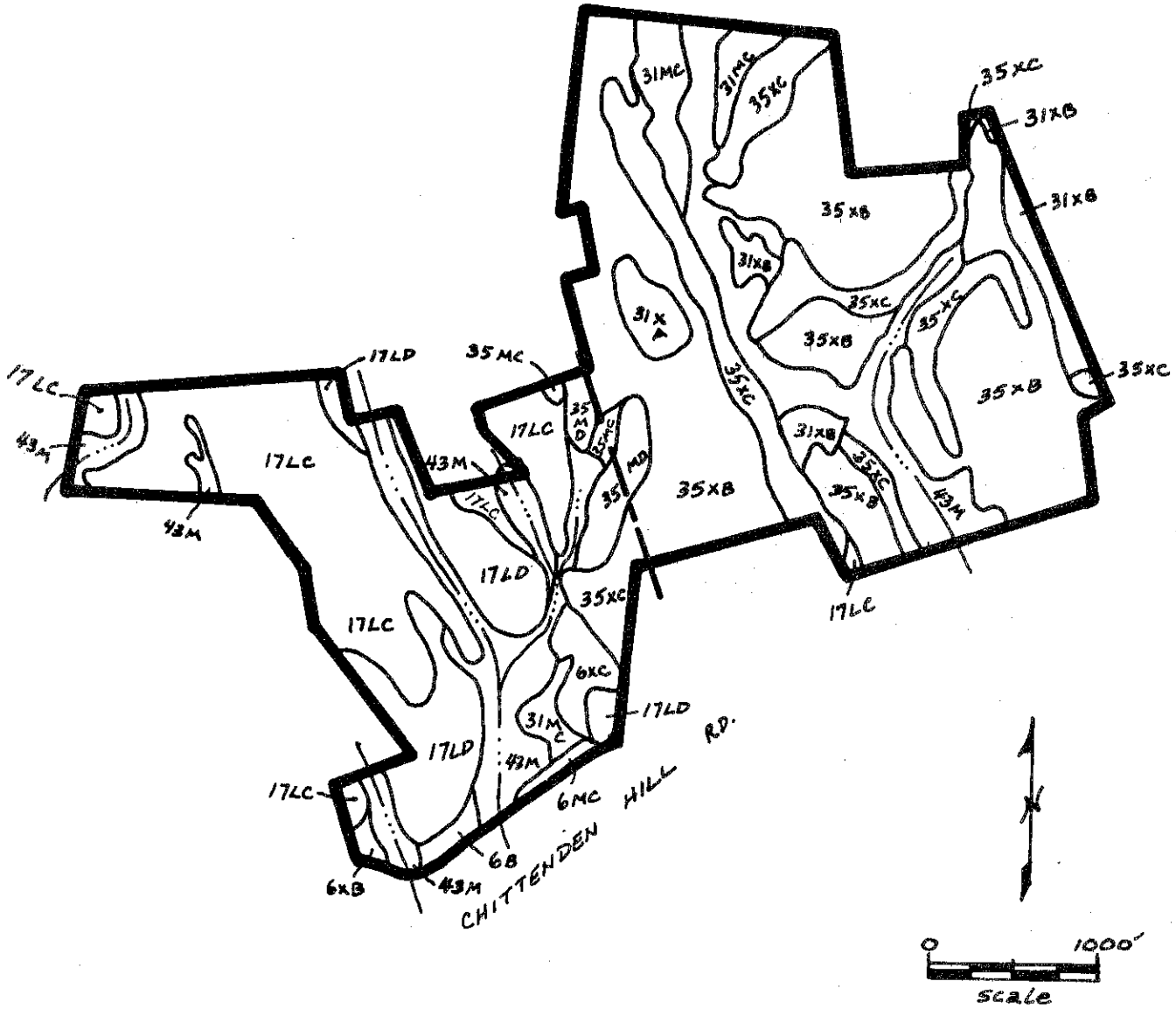
More urban alternatives include clustering of home sites, which would reduce costs and environmental impact by limiting development to areas most suitable for residential use and by reducing the length of roads and utility lines. This is particularly relevant where soil conditions for septic systems are poor. Larger areas could be reserved for open space, enhancing the recreation and wildlife value of the woodland. Some parts of the property are highly productive and could be used for the production of timber or hay.



Appendix

SOILS

CHITTENDEN HILL ESTATES
CLINTON/WESTBROOK, CONNECTICUT



This map is an enlargement from the original 1,320'/inch scale to 1,000'/inch.

Information taken from: Special Soils Report, Connecticut River Estuary Planning Region, Soil Survey Sheet No. 359; prepared by the United States Department of Agriculture, Soil Conservation Service. Advance copy, subject to change.

CHITTENDEN HILL ESTATES
CLINTON, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Natural Soil Group	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*			
						On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping
Hollis-Charlton Hollis Part Charlton Part		17LC	52.9	15	Depth to rock, Slope, Large stones	3	3	3	3
						2	2	2	2
Hollis-Charlton		17LD	27.6	8	Slope, large stones, depth to rock	3	3	3	3
Ridgebury and Whitman		43M	64.4	20	Wetness, Frost action	3	3	3	3
Canton-Charlton		6B	2.3	1		1	1	1	1
Canton		6XB	2.3	1	Large stones	2	2	1	2
Canton		6XC	4.6	1	Slope, Large stones	2	2	2	2
Canton and Charlton		6MC	2.3	1	Large stones	3	3	3	3
Woodbridge		31XA	4.6	1	Percs slowly, Wetness	3	3	3	2
Woodbridge		31XB	11.5	3	Percs slowly, Frost action, Wetness, Large stones	3	3	3	2
Woodbridge		31MC	13.8	4	Wetness, Large stones, Percs slowly	3	3	3	3

CHITTENDEN HILL ESTATES, CLINTON, CONNECTICUT, continued

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Natural Soil Group	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*			
						On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping
Paxton		35XB	98.9	29	Slope, large stones, percs slowly, frost action	3	2	2	2
Paxton		35XC	46	13	Percs slowly, Frost action, Large stones	3	2	2	2
Paxton and Montauk		35MC	13.8	4	Percs slowly, Large stones	3	3	3	3
Paxton and Montauk		35MD	6.9	2	Slope, Percs slowly, Large stones	3	3	3	3

Urban Use Limitations: 1 = slight, 2 = moderate, 3 = severe.

SOIL INTERPRETATIONS FOR URBAN USES

The ratings of the soils for elements of community and recreational development uses consist of three degrees of "limitations:" slight or no limitations; moderate limitations; and severe limitations. In the interpretive scheme various physical properties are weighed before judging their relative severity of limitations.

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On-site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistent with the objectives of local or regional development, many soils and sites with difficult problems can be used.

Slight Limitations

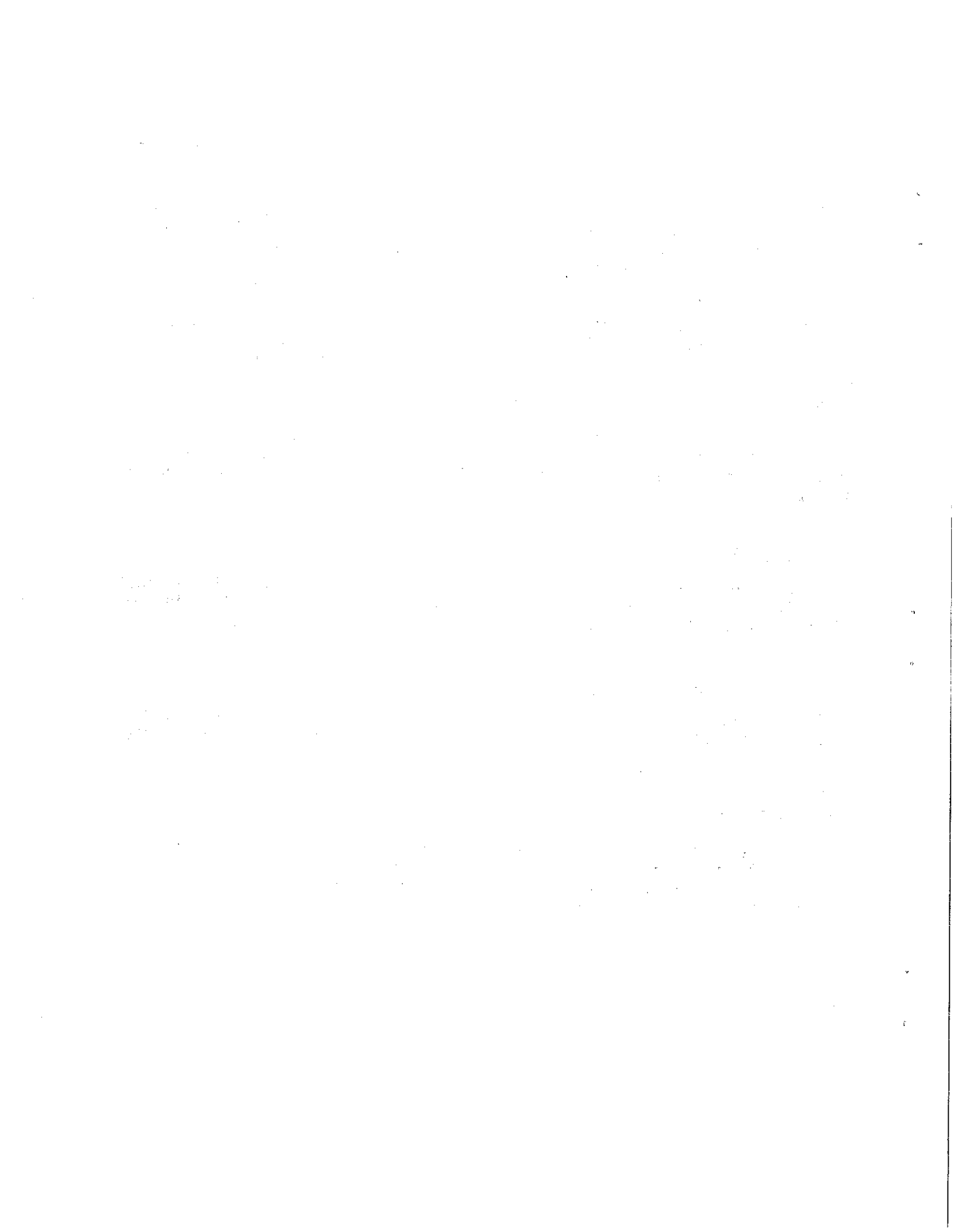
Areas rated as slight have relatively few limitations in terms of soil suitability for a particular use. The degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations.

Moderate Limitations

In areas rated moderate, it is relatively more difficult and more costly to correct the natural limitations of the soil for certain uses than for soils rated as having slight limitations.

Severe Limitations

Areas designated as having severe limitations would require more extensive and more costly measures than soils rated with moderate limitations in order to overcome natural soil limitations. The soil may have more than one limiting characteristic causing it to be rated severe.



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.

